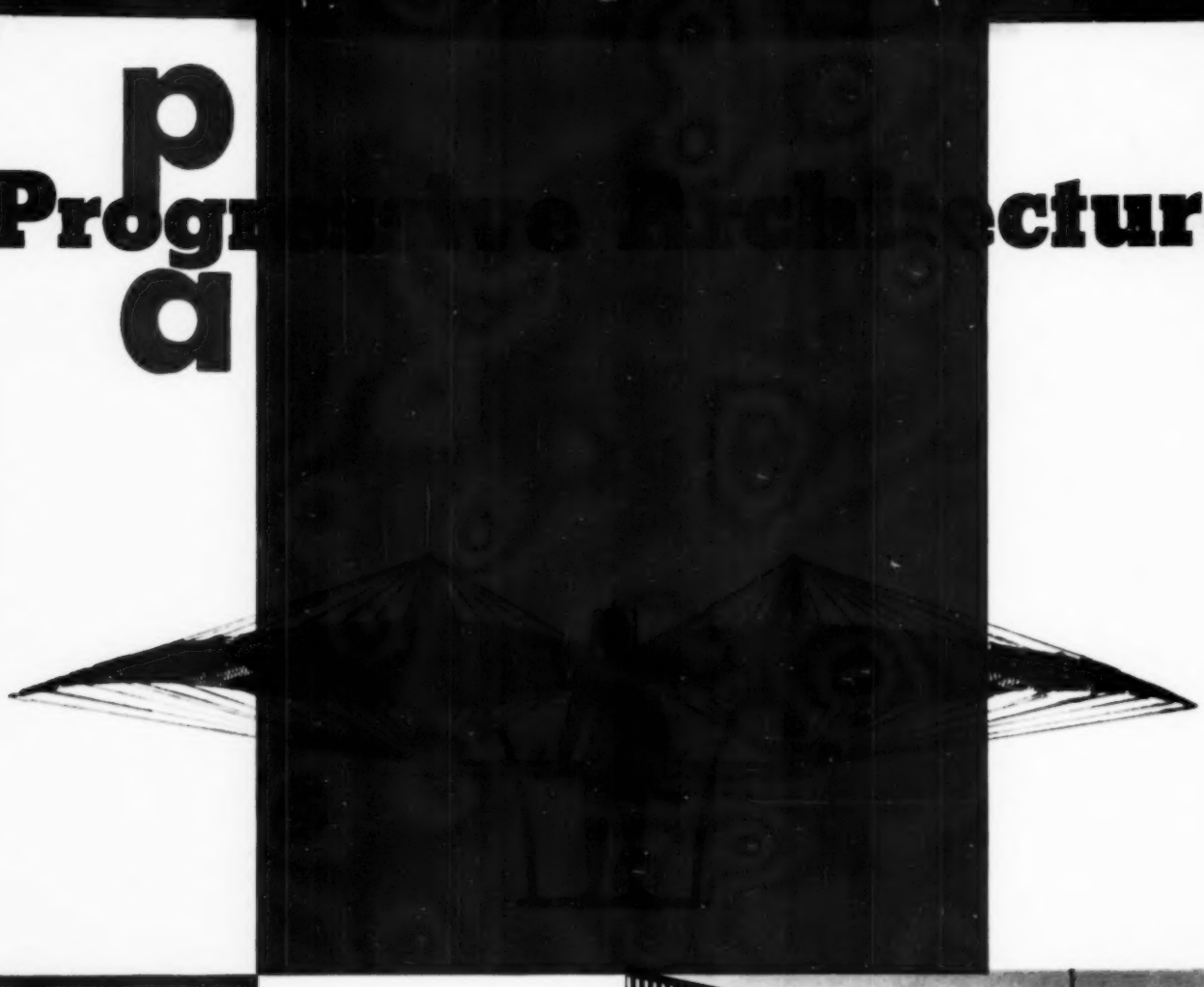
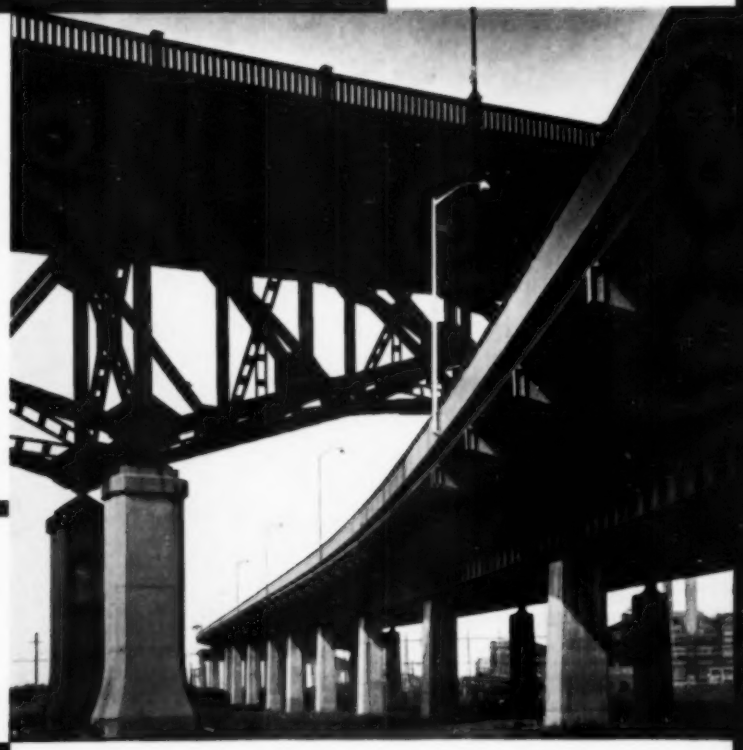
pa Progressive Architecture



greater mobility



world's largest architectural circulation

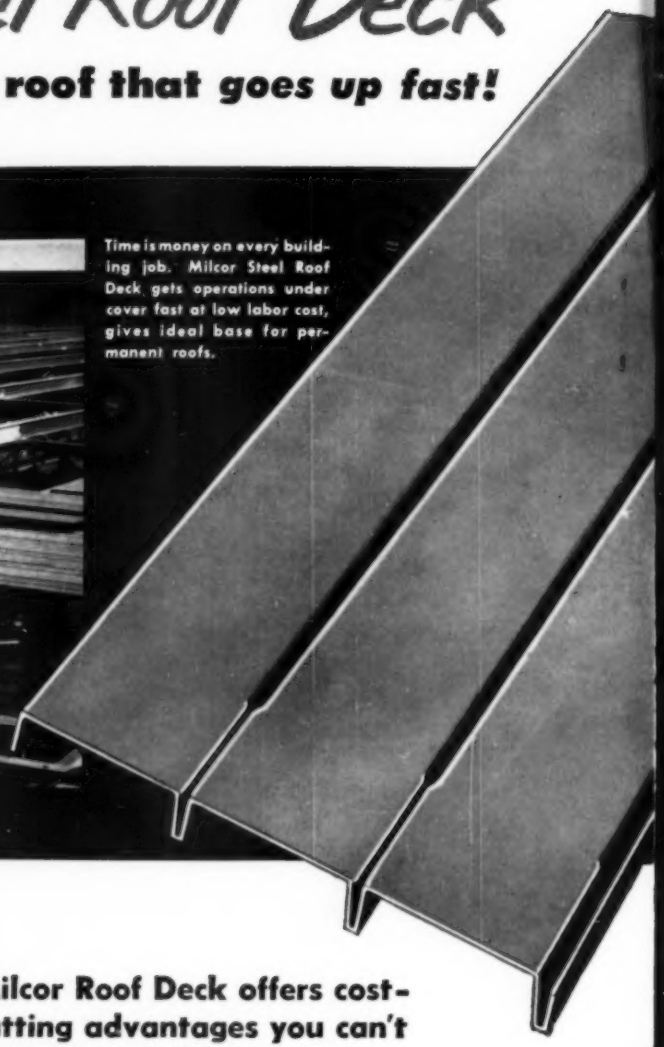
9

september 1954

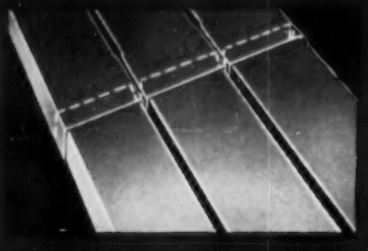
MILCOR* Steel Roof Deck

The permanence of steel—in a roof that goes *up fast!*

Time is money on every building job. Milcor Steel Roof Deck gets operations under cover fast at low labor cost, gives ideal base for permanent roofs.



Milcor Steel Roof Deck is quickly attached to any structural member by welding. Clips can be furnished for anchoring the deck, when welding facilities are not available or if purlins are wood.



Unique design permits sections to be nested and lapped quickly and easily. Plates interlock firmly, providing an unbroken roof surface that is adaptable to any degree of insulation.

Milcor Roof Deck offers cost-cutting advantages you can't afford to overlook:

1. It can be erected anytime—in any weather a man can work.
2. It is light in weight — finished roof requires less costly supporting structures.
3. It is versatile — can be used for flat, pitched, or curved roofs . . . sidewalks and partitions . . . or as permanent steel forms for concrete.

Milcor Steel Roof Deck provides additional advantages, also: High strength-to-weight ratio. Fire resistance. Low maintenance cost.

Leading architects have specified Milcor Roof Deck for low-cost, durable roofs on auditoriums, field houses, factories, office buildings, hotels, apartment houses, hospitals and schools.

For help in planning efficient use of Milcor Steel Roof Deck on *your* jobs, see the special Milcor Roof Deck section in Sweet's, check the 1954 Milcor Manual (also in Sweet's), or call on our engineering service.

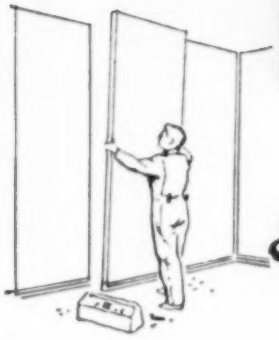
M-335

INLAND STEEL PRODUCTS COMPANY

WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN

BALTIMORE 5, MD., 5300 Pulaski Highway — BUFFALO 11, N. Y., 64 Rapin St. — CHICAGO 9, ILL., 4301 S. Western Blvd.—CINCINNATI 25, OHIO, 3240 Spring Grove Ave. —CLEVELAND 14, OHIO, 1541 E. 38th St.—DETROIT 2, MICH., 690 Amsterdam Ave.— KANSAS CITY 41, MO., P. O. Box 918 — LOS ANGELES 58, CALIF., 4807 E. 49th St. — NEW YORK 17, N. Y., 230 Park Ave. — ST. LOUIS 10, MO., 4215 Clayton Ave.

*Reg. U. S. Pat. Off.



INDIANA MANUFACTURING PLANT

Saves $14,394 in Eight Years

WITH HAUSERMAN MOVABLE WALLS

As office space requirements change, some companies go through the trouble and expense of remodeling . . . others move to new locations. But in ever-growing numbers, progressive companies like the Salisbury Axle Division of Dana Corp., Fort Wayne, find it far more convenient and much less costly merely to rearrange their modern Hauserman *Movable* Walls.

In this case, tangible cash savings of $12,508 are a direct result of making necessary rearrangements with Hauserman *Movable* Walls, rather than "remodeling" ordinary masonry walls. These moves were made easily and quickly, too . . . without disturbing normal office efficiency . . . without dust, dirt or confusion.

Additional savings of $1,886 represent the difference between cost of periodic soap-and-water cleaning of Hauserman's lifetime surface finish, and routine repainting of other type walls at four-year intervals. Whether your offices are large or small—doesn't this suggest an idea to you?

WRITE FOR FREE DATA MANUAL 53! This 96-page comprehensive guide for architects contains complete technical details as well as stock sizes, general instructions and specifications on *all* types of Hauserman Movable Interiors . . . Write to: The E. F. Hauserman Company, 7240 Grant Avenue, Cleveland 5, Ohio.

HAUSERMAN® *Movable Interiors*

OFFICES • SCHOOLS • LABORATORIES • HOSPITALS • INDUSTRIAL PLANTS

Schacht

TWINSTILE

STAINLESS STEEL DOORS & FRAMES

NOTHING

COULD

BE

FINER

SCHACHT ASSOCIATES, INC.

1175 E. 156th Street • New York 59, N. Y.

pa newsletter

September 1954

Exhibition of "Structure and Space in Contemporary Engineering" is among 14 new exhibitions prepared by Museum of Modern Art's Circulating Exhibitions Department which will begin touring country this fall. Included will be buildings by Freyssinet, Catalono, Nervi, Fuller, Wright, and others, shown in photographs and drawings.

Conference on "Uses of Plastics in Building" is scheduled for October 27-28 at National Academy of Sciences, Washington, D. C. Sponsored jointly by Manufacturing Chemists' Association, Society of the Plastics Industry, and Building Research Advisory Board, speakers will present reports on applications, engineering and design problems, standards, building-code aspects, and future trends.

Capitol Architect is now not an architect. In a bad slap at principle of registration and prestige of practicing profession, President Eisenhower has appointed to this $15,000 post a civil engineer who was briefly (1935-1937) a Congressman. J. George Stewart, of Hollywood, Fla., whose business for 23 years was "landscape construction," now is politically awarded the title of architect.

Columbia University School of Architecture announced retirement of Professor Talbot F. Hamlin, July 3. Professor Hamlin leaves Columbia with 38-year teaching record at the University.

Heading group of leading U. S. architects on fall tour of West Germany will be AIA President Clair W. Ditchy—at invitation of Federal Republic of Germany. Purpose is to cement relationships between German and American architects and give touring group opportunity to observe post-war building and reconstruction in Germany.

University of Illinois' Francis J. Plym and Edward L. Ryerson Traveling Fellowships, providing for six months of European study and travel, have been awarded as follows: Architecture—Richard Edward Nevara of Mielke & Smith, Chicago, and Benjamin Crane DeCamp, Cincinnati; Architectural Engineering—Delburt Everett Allison, practicing in Lyons, Ill.; Landscape Architecture—Robert Eugene Giltner, Wyanet, Ill. . . . Washington University's James Harrison Steedman Fellowship in Architecture, also for travel abroad, has been awarded to Tyrus Bildner, 1953 graduate of University's School of Architecture.

Howard T. Fisher of Chicago has spent two months in Bogota, Columbia, as Staff Consultant at Inter-American Housing Center, combined research and training center. Under UN auspices, Fisher demonstrated new equipment given to Center by UN Technical Assistance Administration.

University of Texas will establish extensive architectural engineering library, specializing in building-construction publications difficult to obtain through routine library operations. Printed materials will be collected on such subjects as structural design, building contracting, foundation methods, air conditioning, illumination, acoustics, climatology, building codes, and industrial hygiene. Professor Werner Dornberger, Chairman of Architectural Engineering Department, will direct library project.

Turn page for WASHINGTON PERSPECTIVE

PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice-President and Secretary; Gilbert E. Cochran, H. Burton Lowe, Merald F. Lue, William P. Winsor, Vice-Presidents; Kathleen Starke, Assistant Treasurer. Executive and Editorial offices: 430 Park Avenue, New York 22, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are *architects, engineers, specification writers, designers or draftsmen, or employes of architectural and engineering firms,* and to government departments, trade associations, members of the armed forces, college libraries, college students, publishers, advertisers, prospective advertisers and their employes—$5.00 for one year, $8.00 for two years, $10.00 for three years. Above prices are applicable in U. S., U. S. Possessions and Canada. Latin America and Philippine Republic—$10.00 for one year, $16.00 for two years, $20.00 for three years. All other foreign subscriptions — $15.00 for one year, $25.00 for two years, $30.00 for three years. Single copy — $1.00; special issues — $2.00 per copy. Printed by Publishers Printing Co., New York, N. Y. Copyright 1954, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved. Re-entered as Second Class Matter September 21, 1951, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Volume XXXV, No. 9, September, 1954. In Art Index, Architectural Index.

ABP

AUDITED PAID CIRCULATION ABC

newsletter

Frederick Gutheim Washington Perspective

The appointment of Skidmore, Owings & Merrill, in association with Welton Becket, Wallace Harrison, and Eero Saarinen, to design the Air Force Academy highlights the fact that a new method of selecting architects for Federal work has become solidly established. The use of anonymous architectural selection boards, and the apparatus of security classification which further shrouds their work in secrecy, did not commence with this project. The identical method was employed in the selection of architects for the Spanish bases program. It has been in the course of evolution since the war, and is now spreading beyond the Defense Department to civilian agencies. The pragmatic test—that good architects have often been selected by his method, as they certainly have in this instance—does not obscure the fact that fundamental principles are involved which influence all aspects of architectural selection, and indeed the nature of architecture itself.

What is involved here is not quite "competition by credentials." That by itself is repugnant to most architects, and has several times failed to win acceptance by the American Institute of Architects. Nor can action by such a board be compared to a similar decision by a government official (or a hospital or school board) with continuing responsibility for architectural work. The selection board concentrates attention on the personnel of architectural offices, the type and magnitude of work it has done, and its past experience. In general, it tends to select larger firms, specialists, and firms in which architecture and engineering are integrated. It tends to exclude the younger firms, the less experienced firms, and those breaking into the field represented by the building type. This is a powerful force making for architectural conservatism.

Institutions on the scale of West Point and Annapolis are not often created. Beside this $125,000,000 project, other planned university developments dwindle. Only that in Mexico City deserves comparison. This is firm evidence that the Air Force is fully aware of its architectural opportunity, and considers it is going about its work the best way. But is it?

Public Law 325 authorizing this project was enacted early in April and architect-engineering firms were immediately requested to indicate their desire to be considered. More than 300 had done so by June 3, when the Air Force announced it had selected Colorado Springs as the academy site. These were sifted to 261 (70 individuals and 191 joint submissions) by the time further applications were cut off, June 15, and the selecton board set to work. The names of the board, the number of members, what professions are represented, and any other information are "Classified." So are the deliberations of the board. One can imagine a group of half a dozen, with an architect or two, some engineers, and two or three Air Force officers and technicians. In three or four weeks, they would have reduced the applications to six or eight promising ones and commenced interviewing the applicants. They would also have begun to develop the criteria which would lead to final selection. How much attention was given to design cannot be known; but this positive ability must have been considered, along with such mundane matters as the amount of space in the architect's drafing room, the number of employes, the dollar volume of work, the degree of availability to commence work promptly—and many other considerations which must have shaped themselves in the mind of the selection board. Just what factors were actually deliberated, and their relative importance, only the board knows.

Now something can be said in behalf of government design; and if Federal architects are to be employed, much can be said for their engagement according to criteria similar to those employed in civil service personnel work. But to select, from among private architects, one for a particular project on this basis is quite a different matter. If this is to be considered as an architectural competition, I find it hard to believe that the issue it raises can be dodged. And if it is not a form of competition the consequences in terms of design oblige anyone concerned with Federal architecture to consider the effect of this method.

One thing seems clear. The selection board method, as distinguished from other and more traditional forms of competition, makes it more difficult for the man of talent to break through the perimeter of seniority, arbitrary specialization, and precedent. In the name of administrative convenience and a safe political policy, attention is diverted from elusive and often controversial factors of design, and concentrated upon issues which may be relevant to the execution of design but have little to do with its creation or its recognition. Have we reached the point where the voice of architecture is so weak and its value so low that a mode of competition which can deny the essentials of architecture must be accepted?

Beyond this I must express a personal preference for some form of selection in which the responsibility for the choice of an architect is lodged in some individual government officer with a continuing interest in the quality of the work. The ad hoc board, even if publicly named and open in its dealings, strikes me as an easy way to avoid a decision which demands close personal attention by top officials.

INSULATED METAL WALLS

for INDUSTRIAL and COMMERCIAL BUILDINGS

ALUMINUM, STAINLESS or GALVANIZED STEEL

FLUSH, RIBBED, or FLUTED

Over-all "U" Factor of Various Types is Equivalent to or Better than Conventional 16" Masonry Wall

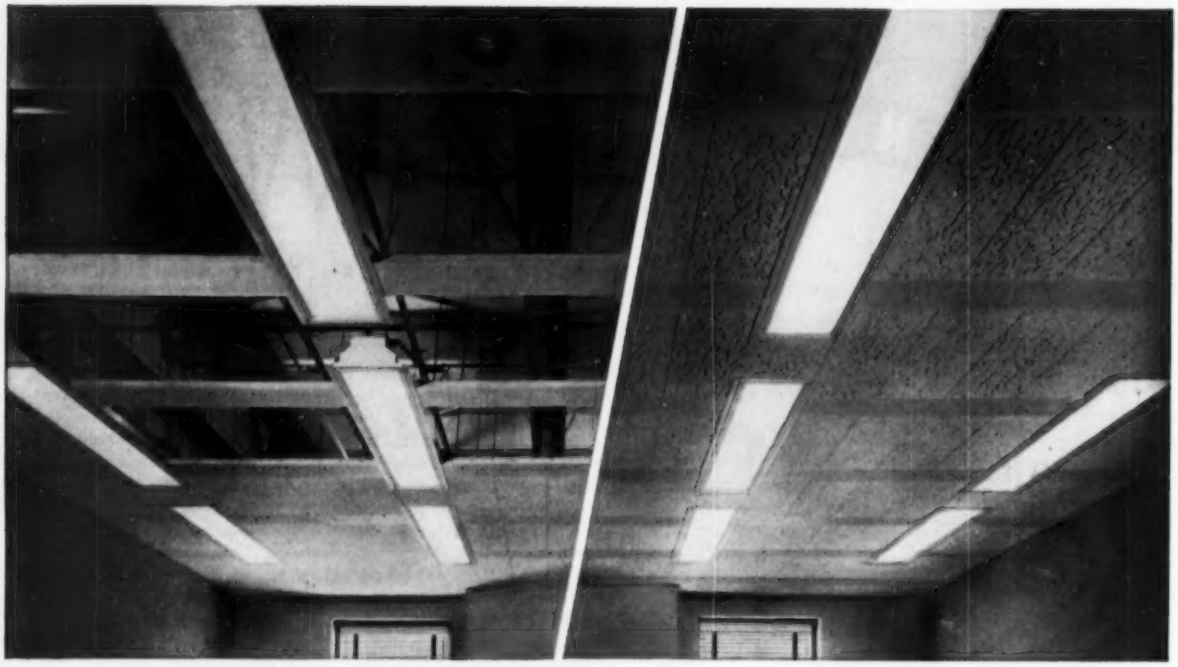
In the new plant and office building, illustrated below, the architects have achieved an unusual and distinctive effect in the office front by ingenious employment of Metal Wall areas in combination with glass and other materials. This is one of many examples in which Stainless Steel, Aluminum or Enamel Coated Steel Walls have been used to good advantage in attaining a distinctive over-all design effect. Apart from the decorative possibilities, Insulated Metal Walls are more practical and more economical in every respect. Today, Mahon can point to hundreds of complete industrial plants, powerhouses, office buildings, schools, and other special purpose structures, built with this light weight curtain wall construction. In each case, substantial building economies were realized through lower material costs, lower labor costs, and the cumulative advantages of reduced construction time . . . buildings can be quickly enclosed with Insulated Metal Walls—even under extreme low temperature conditions which would preclude masonry construction. Other important factors to be considered are light weight, and the maintenance-free permanence of Stainless Steel or Aluminum exterior surfaces. Mahon Insulated Metal Walls are available in the three exterior patterns shown at left. Mahon Fluted and Ribbed Walls can be erected up to sixty feet in height without a horizontal joint—an extremely important feature in buildings with high expanses of unbroken wall surface. See Sweet's Files for complete information, or write for Catalog B-55-B.

THE R. C. MAHON COMPANY

Detroit 34, Mich. • Chicago 4, Ill. • Representatives in All Principal Cities

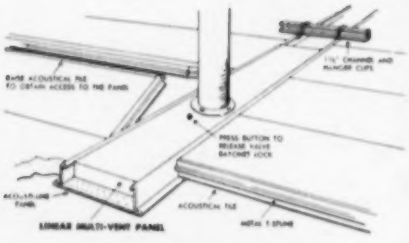
Manufacturers of Insulated Metal Walls and Wall Panels; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms; Rolling Steel Doors, Grilles and Underwriters' Labeled Automatic Rolling Steel Fire Doors and Fire Shutters.

MAHON



new! *Out-of-sight* AIR DIFFUSERS for acoustical block ceilings!

Now Pyle-National Multi-Vent® air diffusing panels, adapted for concealed installation in Celotex Acousti-Line ceilings, provide advantages heretofore possible only with metal pan.



The perforated face of Acousti-Line metal suspension panels act as diffusing plates for Multi-Vent units. No special supports are needed. Flexible connection minimizes need for accurate alignment between duct opening and Acousti-Line panels.

Note ready access to Multi-Vent unit for cleaning or valve adjustment.

NEW SMUDGE-FREE OPERATION—Multi-Vent's low velocity air delivery eliminates the dirtying or discoloration of adjacent acoustical blocks, a costly maintenance problem with high velocity diffusion.

NEW BEAUTY—Out-of-sight installation eliminates all protruding outlets and unsightly grilles. Permits complete freedom of interior design and decoration.

NEW LOWER INSTALLATION COST—Multi-Vent units can be assembled, connected to the duct, and seated in the metal suspension panels in just a few seconds. No tools are required . . . no cutting of blocks necessary.

AND, MOST IMPORTANT OF ALL—Air distribution by Multi-Vent's gentle pressure displacement assures perfectly even air motion and exceptional uniformity and control of room temperatures. The total absence of strong air streams or blow eliminates all usual sources of draft complaints and permits complete freedom in relocating partitions.

For complete information about Multi-Vent installations for all types of ceilings consult the Pyle-National Sales Engineer in your vicinity, or write direct.

MULTI-VENT DIVISION
Sales and Engineering Representatives in Principal Cities of United States and Canada

THE PYLE-NATIONAL COMPANY
1379 North Kostner Avenue Chicago 51, Illinois

TURBO-GENERATORS • FLOODLIGHTS • PLUGS AND RECEPTACLES • CONDUIT FITTINGS

PROGRESSIVE ARCHITECTURE

September 1954

3 Newsletter

4 **Washington Perspective** by Frederick Gutheim

9 **Progress Preview**

15 **Views**

office practice

83 **Joint Ventures** by Siegmund Spiegel

86 **It's the Law** by Bernard Tomson

greater mobility

87 Introduction

89 **The Architect's Place on the Bridge Design Team**
By Roland A. Wank and Fred N. Severud

96 **New Jersey Turnpike**
Fellheimer & Wagner, General Architects

102 **Bus Maintenance Center: San Francisco, California**
Skidmore, Owings & Merrill, Architects

104 **Parking Deck: Atlanta, Georgia**
Aeck Associates, Architects

106 **Service Station: Harlingen, Texas**
Cocke, Bowman & York, Architects-Engineers

108 **Motor Inn: Palo Alto, California**
Kump Associates, Architects

116 **International Airport Terminal: Philadelphia, Pennsylvania**
Carroll, Grisdale & Van Alen, Architects

133 **Spec Small Talk** by Ben John Small

135 **Selected Detail:** Public Building: Ticket Counters

136 **Architect's Details:** New Jersey Turnpike: Bridge

interior design data

139 **Motel Rooms:** Knoll Planning Unit

140 **Reception Area/Office and Room**

142 **Design for a Resort Motel**

144 **Model for a Motel**

146 **Interior Design Products**

155 **Manufacturers' Literature**

163 **Products**

169 **Out of School** by Carl Feiss

196 **Reviews**

212 **Jobs and Men**

240 **Advertisers' Directory**

242 **P. S.**

Editorial Staff

Thomas H. Creighton
Editor

Charles Magruder
Managing Editor

George A. Sanderson
Feature Editor

Burton H. Holmes
Technical Editor

Ilse M. Reese
Associate Editor

Margaret Bernstein
Valerie Butta
Anne Fallucchi
Barbara Lunsford
Hilda Ottway
Erika Sattler
Assistant Editors

Stamo Papadaki
Art Director

Elmer A. Bennett
Drafting

Page Beauchamp
Interior Design Consultant

Executive & Business Staff

Brad Wilkin
Publisher

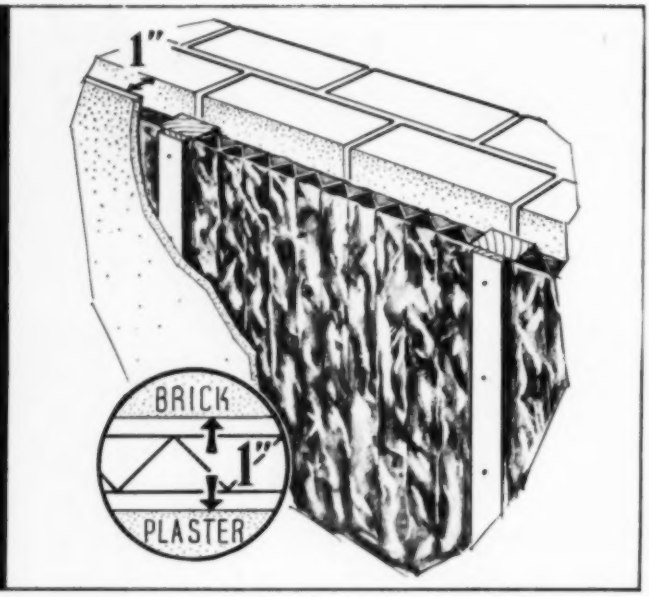
Frank J. Armelt
Production Manager

John N. Carlin
Circulation Manager

H. I. Sirota
Promotion Manager

James T. Burns, Jr.
Service Manager

How to Insulate Masonry Walls and Minimize Dampness and Heat Flow



MASONRY WALLS—brick, stone, cinder or concrete blocks—can be insulated against heat and vapor flow economically and effectively with 2 sheets of aluminum separated ½" apart by an accordion fiber. They can be attached in one operation to furring strips on the inside. Only ½" deep installed, they fit into the shallow 1" spaces created by the furring. The whole cost, material plus labor, should not exceed 7½¢ sq. ft.

In basements and other places in *existing* buildings with masonry walls, insulated areas can be created for active use for playrooms, storage, laundries, workshops, even living quarters, by the same technique of attaching multiple accordion aluminum and reflective spaces to furring strips.

HEAT AND VAPOR FLOW RETARDED

With respect to radiant heat flow, the aluminum surfaces have 97% reflectivity and only 3% absorptivity and emissivity. Low conduction results from the preponderant air spaces of low density. The layers of multiple aluminum and fiber retard inner and outer convection.

To obtain MAXIMUM uniform depth protection against heat loss and condensation formation, it is necessary to use the new edge-to-edge multiple aluminum*, each sheet of which stretches from joist to joist, and also all through the flanges for further vapor protection as well as permanent attachment of each sheet. ***Patent applied for.**

COST OF INFRA INSULATION PLUS LABOR

Type 4-S Jr.—7½¢ sq. ft.

INFRA INSULATION, INC., 525 Broadway, New York, N. Y.

The tough, continuous aluminum sheets are impervious to vapor flow. Infiltration under the flat stapled flanges is slight. Condensation formation on or within the aluminum sheets is minimized by the scientific construction of multiple layers of full-depth accordion aluminum, fiber and air spaces. They are available in pre-fabricated ½" depth, commercially known as Type 4 Jr. Infra Insulation.

HOW TO INSTALL

Attach 1" furring strips to walls on 16" centers. Tack flange of Type 4 Jr. to FACE of furring with staples, flat surface facing room. Nail rough lattice strips over flanges. This prevents contact with interior wall and creates additional air space. Finally attach wallboard, or lath for plaster.

The U. S. NATIONAL BUREAU OF STANDARDS has published an informative booklet describing the destruction condensation can cause and means of preventing condensation. It is entitled "Moisture Condensation in Building Walls." Send us coupon for a FREE copy.

Get a FREE SAMPLE of this unusual insulation. Check the box in the coupon.

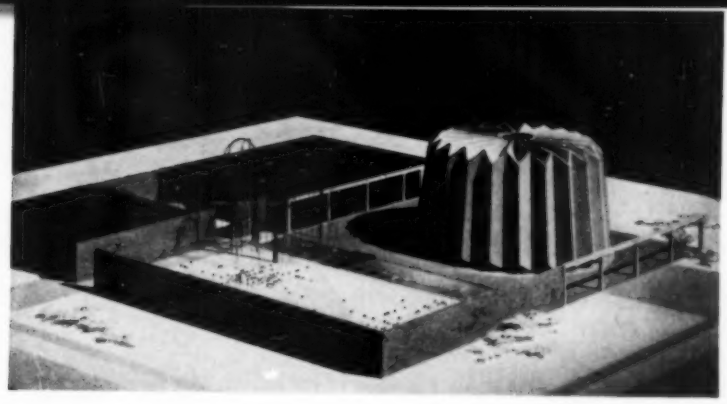
INFRA INSULATION, INC.
525 Broadway, N. Y. C., Dept. P-9

Please send ☐ Samples of Infra ☐ N.B.S. pamphlet "Moisture Condensation in Building Walls."

Name_____

Address_____

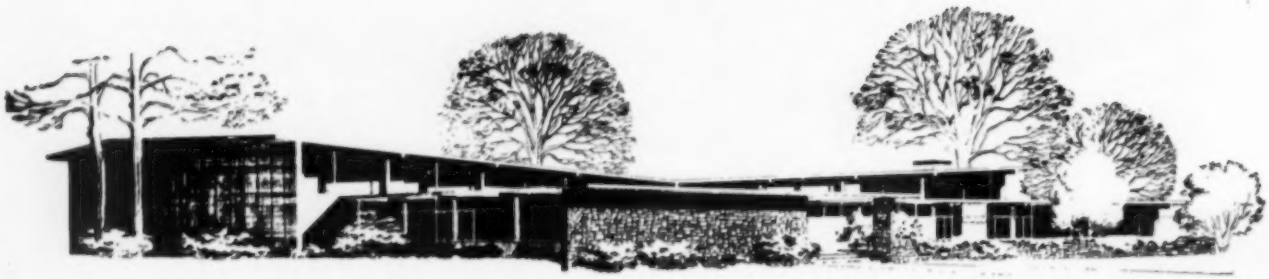
Firm_____



p/a progress review

Fluted circular auditorium rather formally placed on a paved terrace several feet above a Sunday school building, across the rear of the site, is the solution proposed by Schewikher & Elting, Architects, Chicago, Ill., for Pocahontas Methodist Church. Note that classrooms would be lighted by plastic domes, the auditorium by slits on the fluted edges (plan). Model photo: Hedrich-Blessing

church and Sunday schoolrooms



temple for orthodox and reform groups

On a wooded knoll above the broad Tappan Zee stretch of the Hudson River, building of a temple and center for the Hebrew Congregation of Tarrytown, New York, has been started. The new stone, wood, and glass synagogue was designed by Architect Robert A. Green of Tarrytown and will be visible from U.S. Highway No. 9—which already passes, within a quarter of a mile, seven exceptional examples of church style, dating as far back as 1683. An interesting aspect of the program, for the new temple and center is the provision for both Orthodox and Reform worship, in the two chapels (*plan above*). The larger (Reform) chapel is so arranged that seating space of the auditorium can be added for High Holydays, accommodating a total of more than 500 persons. Although the design marks a departure from the traditional concept of a Hebrew synagogue, Green feels that it provides a "place of beauty and dignity, a house of worship and solemnity, a place of study for the child, and, on occasion, a center of community life."*

Green has designed many buildings, especially schools, in Westchester County.

* *Quoted from "Religious Architecture" by Harry M. Prince,* Journal of the AIA, *December 1953.*

who's afraid of "old santa ana"?

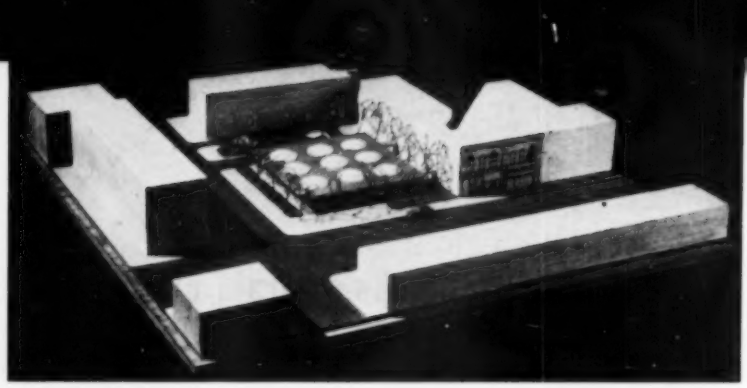
When "Old Santa Ana" strikes Rolling Hills at 70 m.p.h. residents keep their fingers crossed.
Glass in the path of this big blow has been known to break.
But the 12'-high sliding glass doorwall in the Christie residence can take the driving wind, head-on.
Steel frames—fixed and sliding—engineered and fabricated by Steelbilt, handle the
load with a margin of safety to spare. Air infiltration is negligible. Sliding action is incomparable.
When it comes to frames for large areas of glass, fixed and/or sliding, steel has the strength
and Steelbilt the engineering skill. Only Steelbilt has both bottom roller and top roller-hung types.
There are Steelbilt dealers everywhere. Write for the one nearest you.

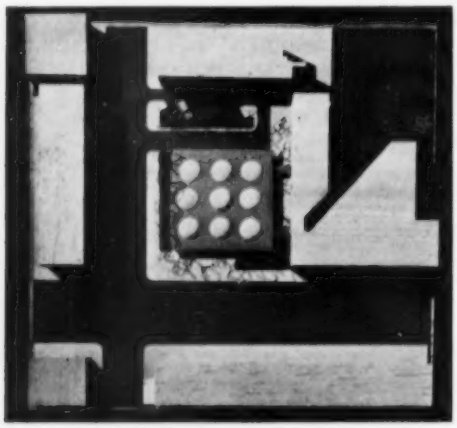
Patented steel frames for sliding glass doorwalls and matching windows:
fabricated to custom design or stock sizes and models. Complete curtain wall systems.
See Sweet's Architectural File.

Steelbilt, Inc. • Gardena, California

STEELBILT

Residence of Mr. and Mrs. Clowes Christie/Rolling Hills, California/James Robert Friend, A.I.A., architect





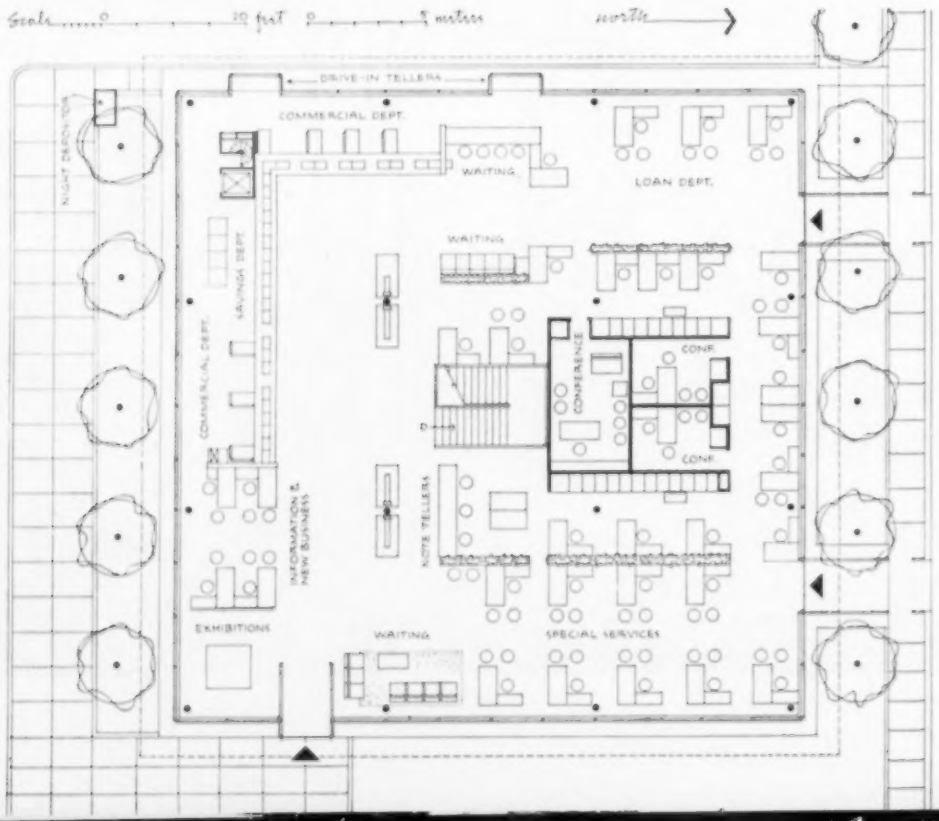
banking rooms for an existing institution

Nearing completion in Columbus, Indiana, is a handsome steel-and-glass pavilion (*model photos* and *plan*) designed by Eero Saarinen & Associates, Architects, Bloomfield Hills, Michigan, to house new banking rooms adjacent to the Irwin-Union Trust Company buildings. The architect comments: "Columbus is a town with brick Victorian fronts unusually unspoiled by the glass fronts that ruin all our little towns. We worked quite hard to find a modern building that would not clash in scale, etc., with the old . . . and through this effort came to the glass pavilion set among trees.

"The placing of the building also does another thing for the town: it gives the town a square not dissimilar in size to the little squares of Seville."

The project included—in addition to the pavilion containing banking rooms, offices, and conference rooms—additional clerical and administrative facilities in a long, narrow wing connected to the pavilion at ground level.

Photos: Richard Shirk



FORD MOTOR COMPANY OF CANADA, LTD.

FORD MOTOR COMPANY OF CANADA, LTD.
NEW PLANT AT OAKVILLE, ONTARIO.

Architects:
GIFFELS & VALLET, Windsor, Ontario.

Contractors:
ANGLIN & NORCROSS ONTARIO, LTD.,
Toronto, Ontario.

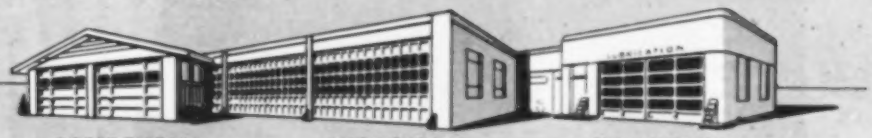
CRAWFORD MARVEL-LIFT DOORS
Built and Installed by
CRAWFORD DOOR SALES COMPANY
OF CANADA, LTD.,
DIV. F. FENTIMAN & SONS,
Ottawa, Ontario.

Canada's Largest Under-One-Roof (32½ Acres) Auto Plant is Equipped with CRAWFORD MARVEL-LIFT DOORS and OPERATORS

"Ford-Oakville" is one of the largest buildings in the world. It is designed for the assembly of Ford, Meteor, Mercury and Monarch cars and Ford and Mercury Trucks. No manufacturing is done here; parts are fabricated elsewhere and assembled here.

The plant is 1,760 feet long; 800 feet wide, with 1,250,000 square feet of working area. Building and installations cost $40,000,000. First steel girders were erected May 2, 1952 and the first car rolled from the assembly lines one year and nine days later. Landscaping includes trees, shrubs, flower-beds and more than 100 acres of lawns.

Installation includes 45 Crawford Marvel-Lift Doors, 43 of which are power-operated, with remote controls. If you have door questions, please write us. Your inquiry will get prompt, intelligent attention.



RESIDENTIAL INDUSTRIAL COMMERCIAL

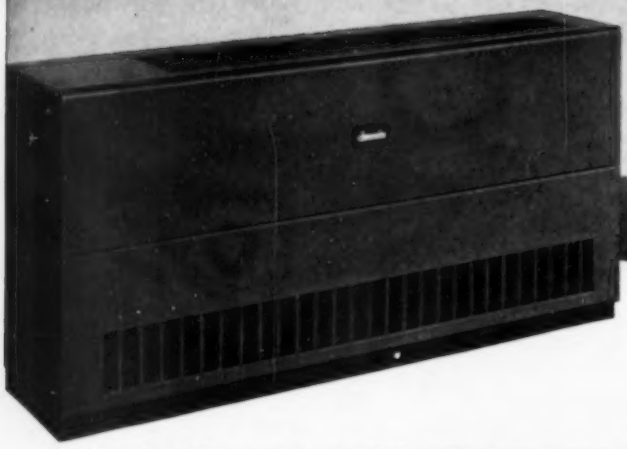
Crawford Door Company, 186-20263 Hoover Road, Detroit 5, Michigan
Plants in 10 cities; Warehouses in 94 cities; Sales and Service everywhere.

SEE OUR CATALOG IN SWEET'S

Crawford MARVEL-LIFT Doors

WARREN WEBSTER & CO.

Announces a New WEBSTER-NESBITT Series C Unit Heater *that has everything!*



A deluxe line of cabinet heaters in five basic sizes, with steam or hot water heating element and two or more centrifugal fans . . . offering attractive styling, high capacity, and extreme flexibility of application.

WEBSTER-NESBITT SERIES C UNIT HEATERS remove practically every obstacle to your freedom of design and application in heating offices, showrooms, corridors, etc.

The family of five matched casings ranges in length from 34″ to 74½″. Heights are 22¾″ (for the small unit, Type B) and 29″ (for the four Type D units). For floor mounting, a 2″ base is provided. Three types of front are offered: *universal,* for fully exposed application; *semi-recessed,* for two depths of partial recess; and *fully-recessed.* The recess fronts extend beyond and conceal the rough wall opening.

Hence, Series C units may be installed in a variety of ways: floor-mounted, horizontal, wall, or inverted, and non-recessed, partially-recessed (two depths), or fully-recessed. Additional latitude comes of the fact that, with the universal front, the intake and the discharge can be through the face, the bottom, or the top of unit. Rear intake is available in floor mounting.

Once again the engineering, manufacturing and distributing facilities of the two great leaders in the heating field bring you equipment unsurpassed for beauty and construction, ease of application, and quiet, dependable performance.

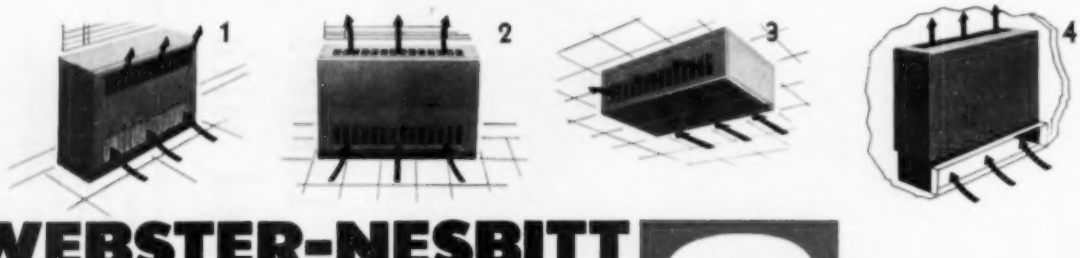
Ask for Publication WN-136.

Heating elements are serpentine type, with round seamless copper tubing expanded to plate type aluminum fins. Elements are of two capacities for use with steam; one capacity for use with hot water.

Fans are forward-curved, double-inlet type, designed with their housings for large air volume at low tip speeds. The small unit, Type B, has two fans; the four larger units, Type D, have two, three, four, five fans.

Motors are resilient-mounted and constant speed (standard). Type B motors are 1725 rpm with a variable-pitch motor sheave (two-speed motors, optional). Type B are direct drive; Type D are belt drive.

Above: *left.* Type D, draw-through; *right.* Type B, blow through. Below: (1) face intake, discharge; (2) face intake, top discharge; (3) bottom intake, top discharge; (4) rear intake, top discharge.



WEBSTER-NESBITT SERIES C UNIT HEATERS

are Manufactured by John J. Nesbitt, Inc., Philadelphia 36, Pa. and Sold by Warren Webster & Co., Camden 5, N.J. with offices in principal cities

maturation of shell

Most of the delegates and conferees attending the annual AIA Convention in Boston and the MIT Thin Shell Conference last June saw for the first time the new auditorium under construction on the MIT campus at Cambridge (June 1954 P/A). *At the site, and in the suites of the Hotel Statler, there was a great deal of unofficial discussion about the rumored deflection of the ribs at the three cut edges of the dome—not only rational analysis but also muddled speculation. Suspecting that the average impression derived from these discourses may have been a bit murky, P/A wrote to the office of Eero Saarinen & Associates, architects for the auditorium, and asked if the magazine might be of service in publishing a brief, factual statement concerning the maturation of this shell. The following comments were received in response to our inquiry.*

Dear Editor: One of the problems which has always been recognized in this structure is the handling of the contacts between the shell structure and vertical walls below. The vertical walls are pretty static—the shell is pretty fluid. All such contacts on the interior are to be by means of rubber bellows-type closures. The contact between the glass-and-metal exterior closure and the shell was to have been a slip-type metal-to-metal joint.

Concerning the exterior closure, the clearance between it and the shell would be affected by the creep in the structural concrete under load. Predictions sufficiently accurate could not be made to permit the fabrication of the glass-and-metal closure before the installation of the insulating concrete, roofing, and interior framing suspended from the shell. It was also apparent that sufficient motion might occur after a long period of time to cause maintenance problems at the joint.

At a meeting of all interested parties it was decided to substitute three struts for the same number of window mullions at each edge beam, in order to fix the elevation of the edge beam and provide a relatively constant clearance above the glass walls. This modification in the design permitted the accurate predictions of dimensions and allowed the fabrication of the metal-and-glass closure to proceed without loss of time. It also obviates future maintenance problems.

In the process of maintaining vertical elevations along the relatively flexible edges, the struts benefit the entire structure even though they carry very little load (possibly a maximum of 10 percent of the total depending on temperature and live load). JOSEPH N. LACY

Eero Saarinen & Associates
Bloomfield Hills, Mich.

upholding standards

Dear Editor: Because of existing conditions (especially noticeable in Chicago) I am attempting to analyze an all-important problem.

This comment is an outgrowth of your fine stand on Architectural Practice. There are certain ethical and moral standards set up pertaining to the practice of architecture—and when these standards are either lowered or disobeyed entirely it is usually to the detriment of the profession (lowering the prestige of the architect).

A contributing factor to the decline of the architect's position, in the eyes of the public, is the "pigeonhole" architect who will sell John Doe a set of plans for $25 or $50. This condition, among others with which you are no doubt familiar, is something which the profession has put up with for years. These practices can be curbed—by enforcement of the laws already in existence or by introducing new legislation to strengthen the present laws. BURTON D. GLASS

Architectural Student
Chicago, Ill.

always a "hot" subject

Dear Editor: Your selection of subject material and the general approach to its coverage is consistently good and gratifying to a steady reader. I want to congratulate you on the *quality* of P/A. The following is a paper written while at MIT (1951) for a philosophy course given by Ralph Barton Perry.

The subject of architectural criticism is always a hot one among any architects or students. The particular approach that I write of—or at least some of its many phases—seems to arouse considerable hostility in many of my friends. I would be interested to read the comment it receives from P/A readers: M.H.

•

"*The new method I am attempting to follow, and which is beginning to find its way into all moral sciences, consists of viewing all human works, and particularly works of art, as facts and phenomena of which it is essential to mark the characteristics and seek the causes—nothing more.*" Taine, 1865.

Most architectural criticism is vague, unorganized, inconsistent, and unconstructive. It lacks the rationale and clarity of a positive approach.

The approach that I propose is one mostly of common sense, but finds its genesis in "The General Theory of Value," a philosophy discussed by Ralph Barton Perry. The intent, in this case, is to find and to outline a theory of criticism which will be effective on an operative basis. It is aimed primarily at the student/critic (professor) relationship during and immediately after the working stages of a design.

What is architecture? The eternal question asked not only by the fledgling but (also) by the master builder. Surely the establishment of a critical standard and approach will be dependent upon the answer. But here is the first of the infinite number of unknowns to be dealt with. Definitions of architecture have

(Continued on page 16)

(Continued from page 15)

been composed since first man laid lintel on post: their scope and variety would make a dictionary. According to the critic, Geoffrey Scott, "Architecture simply and immediately perceived is a combination, revealed through light and shade, of space, of masses, and of lines."

The pioneer of the modern movement in America, Louis Sullivan, says that "if we would know why certain things are as they are in our disheartening architecture, we must look to the people; for our buildings as a whole are but a huge screen behind which are people as a whole—even though specifically the buildings are individual images of those to whom, as a class, the public has delegated and entrusted its power to build. Therefore, by this light, the critical study of architecture becomes not merely the direct study of an art—for that is but a minor phase of a great phenomenon—but, *in extenso*, a study of the social conditions producing it, the study of a newly shaping civilization. By this light, the study of architecture becomes naturally and logically a branch of the social sciences, and we must bend our facilities to the bow, if we would reach the mark."

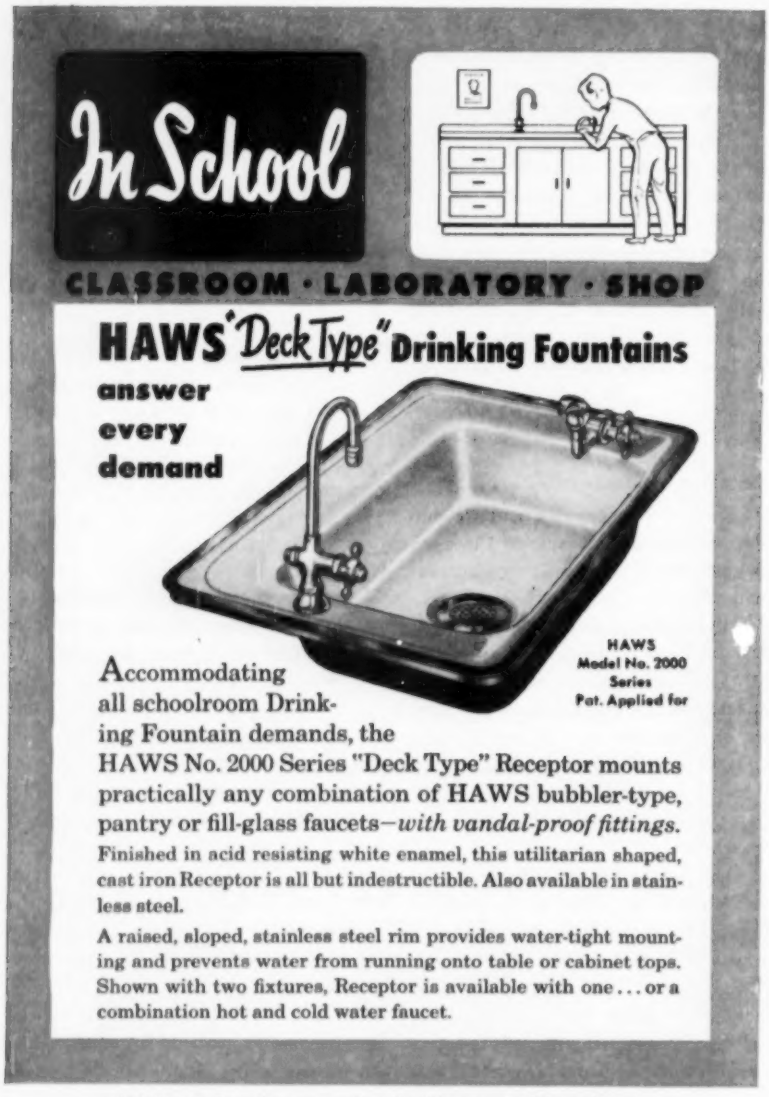
No doubt most of the definitions will contain truths, but for a working basis, I submit the familiar statement, "Well-building hath three conditions: commodity, firmness, and delight.
(man) (technology) (art)

This statement is simple and all-inclusive. But there is no reason, *prima facie*, to suppose that a pre-established harmony exists between the three elements, unless it can be proved that the elements are commensurable. Any attempt to force on architecture an unreal unity of aim will lead inevitably to failure (i.e., Does a building have to be sound to be pleasing to the eye?). Instead, there should be three separate modes of criticism, corresponding to the three modes of thought—in this case, commodity, firmness, and delight—or as many modes as need be established. Each could be rational, complete, and (within its own province) valid. Together with this separation must come another phase, which is criticism of the complex, the whole, but seen only in its proper light as a series of related provinces.

This sort of approach will lead to a hierarchy of interests. For example, in the consideration of a structure, firmness might be considered the
(construction)
prime interest, with the others in an order below and contingent on this prime consideration. At no time does this suggest that any of the established modes of thought be neglected or omitted, but only recognized in a relative position.

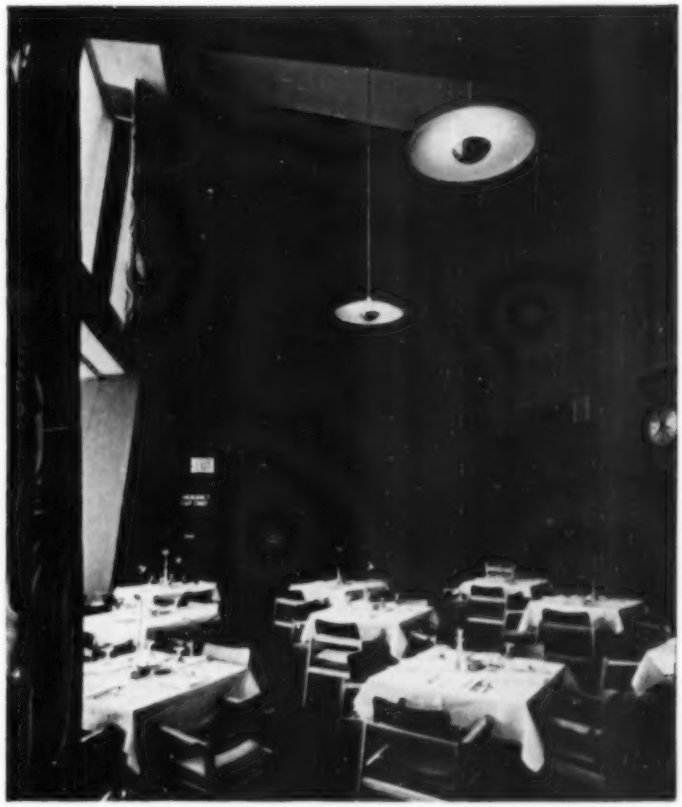
The designer, by necessity, will establish an order of criteria by which he works. The critic must understand this order first, then criticize it if he will. One cannot *constructively* criticize a completed work except from the premises of its origin.

(Continued on page 28)


In School
CLASSROOM · LABORATORY · SHOP
HAWS "Deck Type" Drinking Fountains
answer every demand
HAWS Model No. 2000 Series Pat. Applied for
Accommodating all schoolroom Drinking Fountain demands, the HAWS No. 2000 Series "Deck Type" Receptor mounts practically any combination of HAWS bubbler-type, pantry or fill-glass faucets—with vandal-proof fittings.
Finished in acid resisting white enamel, this utilitarian shaped, cast iron Receptor is all but indestructible. Also available in stainless steel.
A raised, sloped, stainless steel rim provides water-tight mounting and prevents water from running onto table or cabinet tops. Shown with two fixtures, Receptor is available with one . . . or a combination hot and cold water faucet.

Write today for completely illustrated brochure.

HAWS DRINKING FAUCET CO.
1443 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA



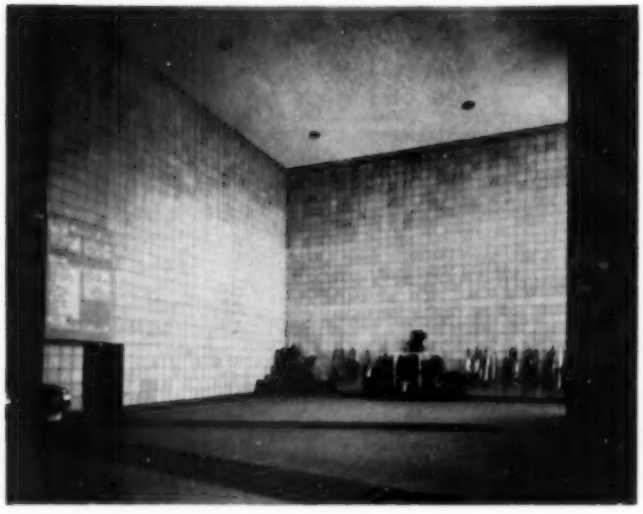
PHILADELPHIA
INTERNATIONAL AIR TERMINAL

Carroll, Grisdale and Van Alen
—Architects

John McShain, Inc.
—Builders

Throughout this ultra-modern structure, Architectural Terra Cotta in units 16" x 16" was specified for public areas and for exterior of mirador and control tower. Right — *midnight black provides striking contrast for dining room.* Below — *selected shading of Architectural Terra Cotta units in gray and green adjoining walls, provides added character for spacious entrance foyer.*

There's no limit to what you can do ...with Architectural Terra Cotta



For plasticity of form, color and texture, no other building material gives you such unrestricted design freedom as Architectural Terra Cotta. It is custom-made for high quality and close tolerances to your precise specifications. You can select any color in the spectrum ... choose any texture desired ... and design in large units or small, plain surfaces or decorative sculpture. What's more, Architectural Terra Cotta enables you to keep initial costs in line and maintenance at a minimum. The original richness and beauty of its glazed surface can be retained indefinitely by simple soap-and-water washings. Whatever the buildings now on your boards, you'll find that Architectural Terra Cotta compares favorably for quality, appearance, price and permanence.

Construction detail, data, color samples, estimates, advice on preliminary sketches, will be furnished promptly without charge on Architectural Terra Cotta and Ceramic Veneer.

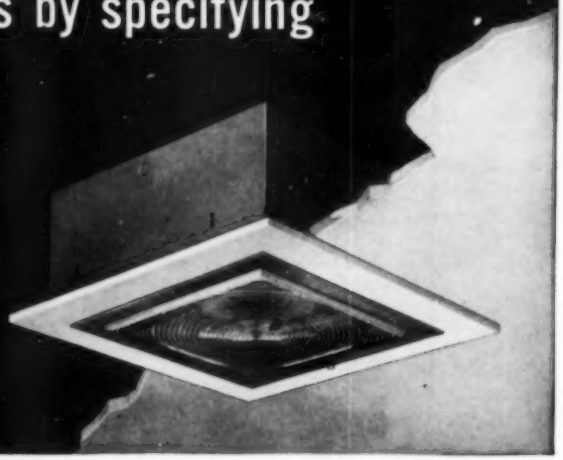
F S T C

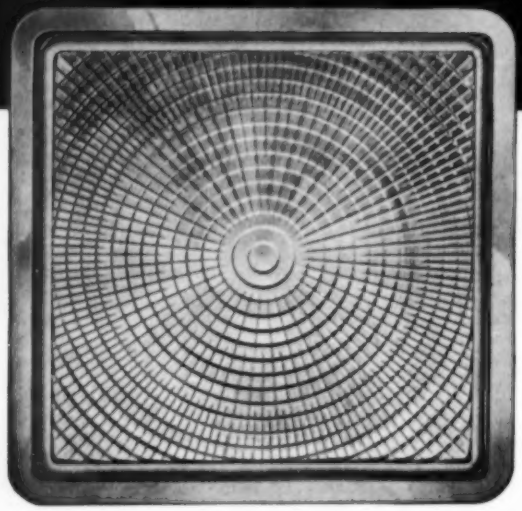
FEDERAL SEABOARD TERRA COTTA CORPORATION

10 East 40th Street, New York 16, N. Y.
PLANTS AT PERTH AMBOY AND SOUTH AMBOY, N. J.

Offer clients these benefits by specifying

ART METAL advanced ELIPTISQUARE

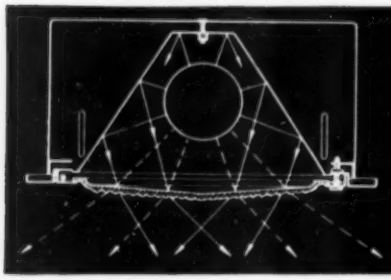




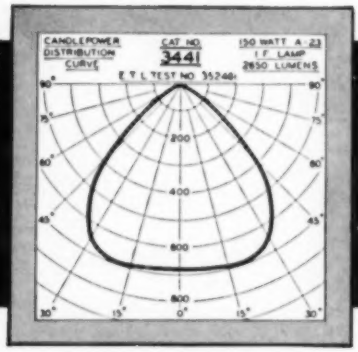
with clear, prismatic AMCOLENS

- Lighted objects reflect their true color value
- Highest light transmission efficiency
- Precise light direction control
- Edge light to ceiling for visual comfort
- Shallow recessed lens lighting

advanced ELIPTISQUARE
Multiplies Light Output



Eliptisquare reflector redirects *all* box-enclosed light downward through AMCOLENS to multiply lamp light utilization.



Please notice that the candlepower distribution curve is by Electrical Testing Laboratories, Inc., not The ART METAL Company.

May we send Bulletin 254 which gives complete details? Please write:

THE ART METAL COMPANY
CLEVELAND 3, OHIO

Manufacturers of Engineered Incandescent Lighting

New reinforced VIBRIN® building panels *make living light and fancy-free!*

Florida home features exterior wall panels, jalousies, overhang, inside partitions, door and shower enclosure of light-stable Vibrin resin. Fabricated by Russell Reinforced Plastics Corp., Lindenhurst, L. I., N. Y.

Modern living is *easy* living. And these new building panels of Vibrin plastic reinforced with glass fibers make houses lighter, brighter, and *easier to live in than ever before!*

Translucent Vibrin wall panels let in light without heat to give even the smallest homes an air of pleasant roominess. Living and working areas *both* take on new color and cheerfulness.

Vibrin building panels never need painting, either—have attractive color built in for life. And they're stronger than steel by weight—*unharmed even by hurricanes!*

What's more, these Vibrin panels can't rust or rot, and are completely insect-proof. Impervious to weather, they won't warp or shrink, and are fire-retardant. And they have a glass-like surface that cleans with a damp cloth!

Less costly, too! Lightweight, relatively inexpensive Vibrin panels can be handled by any carpenter—sawed, nailed, screwed, or bolted in place. And a single wall takes the place of a non-insulated double wall of other materials!

To find out more about Vibrin building panels and the advantages they offer *you*...in better building for easier living...simply write to the address below.

Naugatuck Chemical

Division of United States Rubber Company

579 ELM STREET, NAUGATUCK, CONNECTICUT

BRANCHES Akron • Boston • Charlotte • Chicago • Los Angeles • Memphis
New York • Philadelphia • IN CANADA Naugatuck Chemicals, Elmira, Ontario

(Continued from page 16)

The work of the architect is mainly synthetic, while that of the critic is analytic. These different roles, plus the tendency to transcribe architecture into terms of one's self, will create barriers against *rapport* between student and critic.

What is needed is the common ground —the basis of understanding. This can be effected if the basic assumptions of the design are laid bare, discussed, agreed upon, categorized and arranged (at least in mind); then all will be speaking the same language. Once this is achieved, constructive criticism can develop. Dogmas can be discussed, or at least recognized, and a clarity of approach will result. Once this groundwork is laid, all the elements of architecture—the planning, construction, materials etc.—can be discussed in the light of the original premises. Critical value-judgments will be made on criteria agreed upon by both student and critic. Therein lies the value of the criticism.

The working theory behind this approach to criticism is based on mutual understanding. It looks for common denominators and for comparable data.

The usual difficulty of dealing with architecture and the arts, in general, is the involvement of esthetics. Too often the concept of beauty and esthetic evaluation is thought of as the ethereal element, untouchable and unknowable. If the approach stated above can be applied, perhaps the esthetic elements, too, can be mutually understood and sensibly criticized.

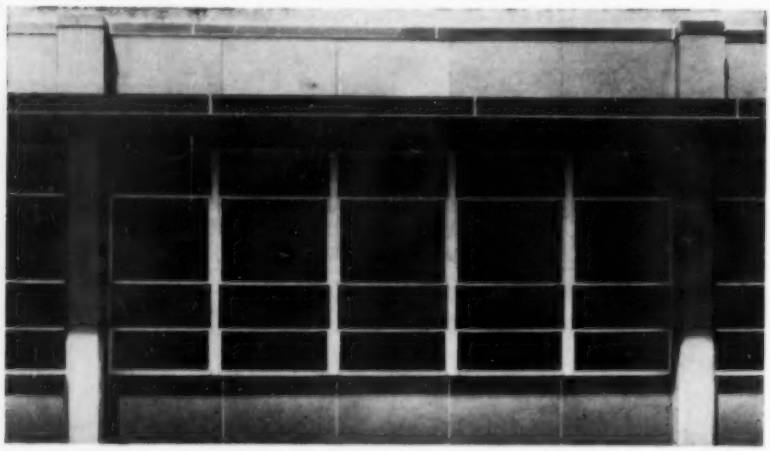
First, the way must be cleared of *a priori* concepts. To say a thing is *beautiful* or *good* gives it an authority and limits further esthetic involvement. Criticism must be without the use of stigma words such as *beautiful* and *ugly*, *good* and *bad*.

Beauty (or any other similar concept) is relative to the memory, training, and time-conditioned preferences of the observer. Sensory perception seldom operates freely, but is impeded by formalized ideas. The field worker's concept of physical beauty may be a ruddy complexion, sturdy figure, and strong hands. To the sophisticated man of leisure, these may seem vulgar: instead, he admires the languid pallor, a fragile form, and delicate extremities. Obviously these concepts differ and are not commensurable.

The elements of subjective relation between viewer and object must be reconciled and a common denomination found. This denominator is the *concept of feeling*.

The total esthetic experience can be divided into two parts. The first is immediate sensory perception, the reaction to stimuli (visual, audio, tactile, etc.). There are certain natural demands within the human organism which, based on physiological and psychological structure, insist upon such urgencies as harmony and balance. Our reaction to stimuli is filtered through these demands —and when statisfied, we *feel good* and

(Continued on page 22)



NOW a Proved System for
PORCELAIN ENAMEL PANEL WALLS

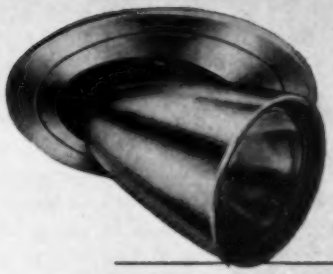
ERIE has a developed system of insulated or filled Porcelain Enamel Panels suitable for spandrel walls, panel walls or window walls. Supporting methods, attachment, insulation and other detailing is complete and readily adaptable to your designs. This system meets most city codes and is ideally suited to multi-story construction. If you've wanted to use Porcelain Enamel in panel wall construction, let ERIE give you the answers and the material!

Write for Architect's Sketch Book of Panel Wall designs and details.

THE Erie ENAMELING COMPANY
ERIE, PENNSYLVANIA

Angles 90°

Rotates 350°



A New Angle on LIGHT

Only SWIVELIER'S

Universally Adjustable Recessed

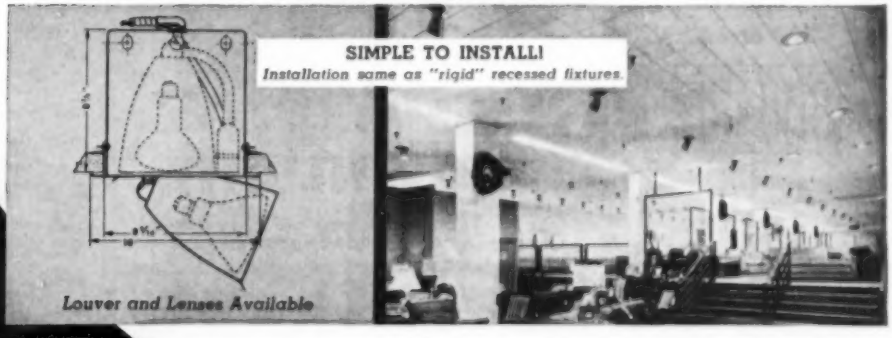
GYRO-LITE

Angles FULL 90° and Rotates 350°

SPOTS THE LIGHT WHERE YOU WANT IT!

"GYRO-LITE" eliminates "lumen dead spots"— furnishes lighting emphasis *where* it is needed, *when* it is needed. It accommodates 75-watt PAR-38, 150-watt PAR-38 and 75-watt R-30 lamps.

The skillfully-engineered "GYRO-LITE" is made with the unique Swivelier Spring-Tension Socket which adjusts to any position and "stays put . . . at any angle!" *(U. S. Air Force tests show "no decrease in tension after 10,000 adjustments".)* Specify "GYRO-LITE" for that *new* lighting angle for stores, showrooms, auditoriums, museums and modern homes.



Louver and Lenses Available

SIMPLE TO INSTALL!
Installation same as "rigid" recessed fixtures.

ONLY SWIVELIER PRODUCTS ARE MADE WITH THE PATENTED SPRING TENSION SWIVELIER SOCKET

LOOK FOR THE SWIVELIER TRADEMARK ON EVERY SWIVELIER PRODUCT

FOR HIGH CEILING LIGHTING APPLICATIONS USE SWIVELIER'S

PAR-BEAM-LITE*

Offers three intensities of illumination: 300-watt PAR-56 Spot, 300-watt PAR-56 Flood, 200-watt PAR-46 Spot.

*Reg. U.S. Pat. Off.

• *Write Dept. PA9 for complete SWIVELIER Catalog.*

swivelier Company, Inc. 30 Irving Place, New York 3, N. Y.

PLANT: BUSH TERMINAL BUILDINGS, BROOKLYN 32, NEW YORK

(Continued from page 20)

we sense beauty. The second part is intellectual enjoyment—the factors of clarity, correctness, consistency, and truthfulness. These come only after study and understanding. The interactions of these two constitute the whole esthetic experience—and result in positive or negative feelings.

Esthetic judgment is difficult to record: We are aware of a feeling and, instead of saying that we feel something, we say that something makes us feel. These feelings are recordable esthetic experiences and are comparable, as to degree and type of feeling. For example, "That room makes me feel gloomy, dark, and sad; the other room makes me feel bright and happy." Here is a basis of understanding experiences known and felt by both student and critic, experiences whose derivation can be found in material elements of size, color, texture, form, etc. These feelings then can be discussed and analyzed. Since the qualities of a work of architecture occur as the characteristics of products of long labor, the perception of these qualities is usually contingent on time-absorbing training, the enjoyment of them always takes effort and energy. The knowledge of the problem and understanding of the solution is a requirement to total enjoyment—consequently to the extent and value of criticism.

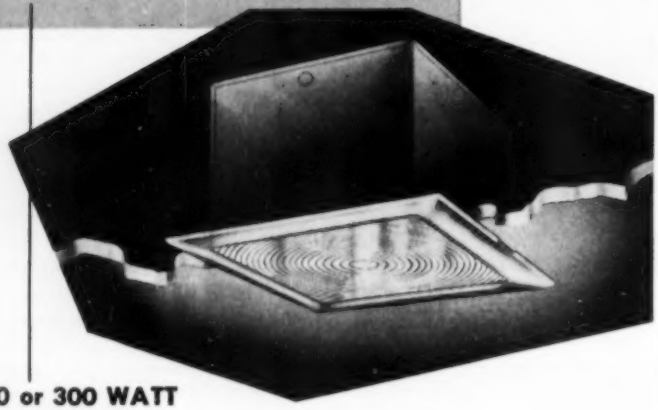
This statement of a general approach to architectural criticism is at best sketchy and incomplete, due to its brevity, but the suggestions are easily expandable, flexible, and applicable. While the concept of competitive grades is in itself detrimental to creative activity, in this case a system of grades might prove instructive to a group of students all attempting to fulfil the same criteria.

This approach could be facilitated by a sort of modular chart, with each of the elements involved listed in a ladder-like order. Elements such as acoustics, ventilation, site-planning, construction, social imperatives, etc., would be considered.

Each, in turn, would have a set of criteria and the project would methodically be fitted to the pattern of each element. A grading system might be devised, with values given each element according to its position on the ladder. In this way, an abstract value could be given the whole project and it would become commensurable with other projects of the same nature; i.e., a project with good acoustics and poor site-planning would be evaluated higher than one with poor acoustics and good site-planning, if this were the pre-established hierarchy of values.

MORT HOPPENFELD
New York, N.Y.

a **new** departure in design and appearance



200 or 300 WATT

SQUARE **RECESSED DOWNLIGHT**

- Square, silver-mirrored Permaflector, lamp and lens positioned for maximum efficiency with controlled brightness.
- Choice of extensive distribution, intensive distribution and drop bowl lens.
- Designer styled one piece die-cast frame with concealed hinges and latch.
- Inconspicuous finger-pull for easy opening and maintenance.
- A readywired "packaged" unit with many labor saving installation features.
- Designed to recess into a 12" accoustical module.

Write for Specification Sheet

PITTSBURGH REFLECTOR COMPANY
421 OLIVER BUILDING, PITTSBURGH 22, PA.

FLUORESCENT Pittsburgh Permaflector Lighting INCANDESCENT

REPRESENTATIVES IN PRINCIPAL CITIES • WHOLESALERS EVERYWHERE

WHEN YOU CHANGE YOUR ADDRESS

Please report both new and old addresses directly to P/A five weeks before you move. The Post Office will not forward your magazine to the new address unless you pay extra postage. Avoid this needless expense by notifying us five weeks in advance.

PROGRESSIVE ARCHITECTURE
Circulation Department
430 Park Ave., New York 22, N. Y.

A SKYLINE OF UNIVERSAL INSTALLATIONS

SEALUXE engineered Metal-Glass buildings and Solarized buildings actually represent a new science — a new kind of Engineering — a new kind of Architecture.

SEALUXE has pioneered and developed this type of Architecture — truly a "REVOLUTION ON THE SKYLINE" — a 100% American type of Architecture that is beautiful in appearance — low in original cost (no more than conventional buildings) — lower in maintenance cost — easy to heat — and easy to cool.

UNIVERSAL CORPORATION has authorized agents in ALL of the Architectural Centers to assist you with your preliminary drawings. Mr. Aladar Olgyay, internationally known Architect, is retained as a Consultant for our research work on Solar Shading and Climatology.

WRITE IN FOR THESE UNIVERSAL AIDS*

★ DRAFTING ROOM STANDARDS ★ CATALOGS ★ MANUAL OF TECHNIQUES FOR METAL-GLASS FACADES

IMPORTANT: *Send Universal Engineers your preliminary drawings for study. They will be returned within three to seven days with worthwhile suggestions.*

UNIVERSAL CORPORATION

J. P. TRAVIS, *President*

DALLAS NEW YORK CHICAGO LOS ANGELES DES MOINES

ENGINEERING • MANUFACTURING • INSTALLATION

BARBER COLMAN

"UNI-FLO" ENGINEERED

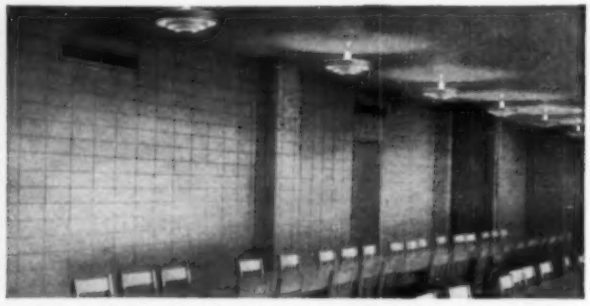
Air Distribution

. . . provides comfort for mental patients at huge Indiana institution . . .

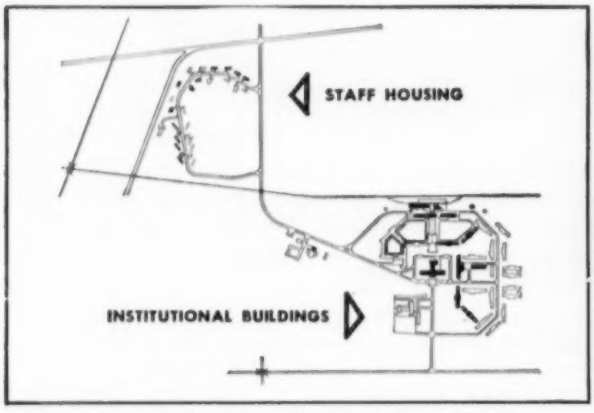
Nearing completion at Westville, Indiana, is one of the world's largest institutions for the mentally ill. Since 1949 most of the thirty-four large buildings, plus staff residences, have been constructed at a total cost of nearly $25,000,000. The institution contains a small city within itself with provision for housing, feeding, working, and recreational facilities for 3,250 patients and 450 employed personnel. Air distribution in most of the project has been engineered with Uni-Flo equipment to assure comfort conditions for the patients and staff members. Over 2,500 pieces of Uni-Flo equipment have been specified or installed in various buildings.

Architects, Engineers, Interior Designers: Boyd E. Phelps, Inc., Michigan City. *General Contractors:* Tonn & Blank, Michigan City; E. H. Marhoefer, Jr. Co., Permanent Construction Company, and Gordon & Company, Chicago. *Ventilating Contractors:* Troeger Sheet Metal and Zack Incorporated, South Bend; Industrial Sheet Metal, Hammond; Reliable Sheet Metal, Chicago.

Disturbed Unit houses violently insane patients. Uni-Flo Sidewall Diffusers in soffit distribute air quietly and uniformly. Each Diffuser is furnished with tamperproof screws.



Aged and Infirm Unit has dining area handling eighty patients at one time. Facilities are available for serving eight hundred patients in various units simultaneously. Uni-Flo Sidewall Diffusers are installed high on the walls.



Huge size of project is indicated by sketch. Included are dormitories, a hospital, laundry, kitchens, auditorium, greenhouses, occupational and recreational units, cold storage, warehouses, power and sewage plants, plus a separate personnel building and individual staff residences.

Spacious Auditorium has every modern facility for musical therapy treatments, plus entertainment of patients. Venturi-Flo Ceiling Diffusers (individually adjustable) provide a healthful, comfortable, draft-free atmosphere without distracting air noise.

BLAZING THE TRAIL *TO BETTER AIR DISTRIBUTION*

First to publish reliable data . . .

Performance data on air distribution equipment was meager and incomplete just twenty years ago. Pioneer work on this subject in the Barber-Colman laboratories was the basis for comprehensive engineering data, now time-proved and widely used to determine, in the layout stage, the exact requirements for any desired conditions.

Research, development, and testing facilities are fundamental requirements and the responsibility of manufacturers to assure progress in the field of air distribution. Complete information about Barber-Colman's reliable selection data is available from our nearby Field Office (consult phone directory) or by writing us.

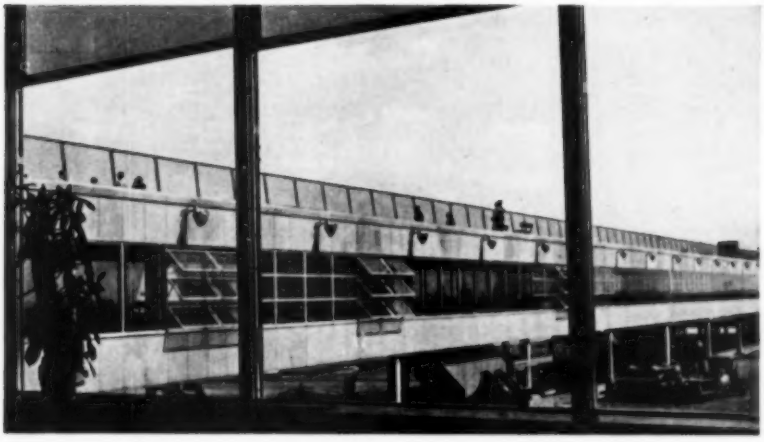
BARBER-COLMAN COMPANY, Dept. I, 1131 Rock St., ROCKFORD, ILL., U.S.A.

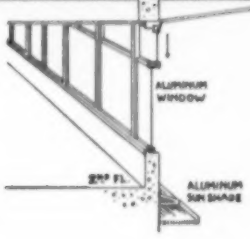
ANOTHER AIRPORT EQUIPPED WITH FLOUR CITY QUALITY ARCHITECTURAL METAL

PHILADELPHIA INTERNATIONAL AIRPORT

JOHN McSHANE INC.
BUILDER

CARROLL, GRISDALE & VAN ALEN
ARCHITECTS





Interior view with section through south wall. (Above)

View of second story windows and sun shades. (Above Left)

View of "finger" through second story windows. (Left)

Photographs by Alfred A. Delardi

"Designed for today, but with an eye for the future, this great new structure is at once a symbol of the air age, and a practical building containing everything needed for the comfort of travellers and the rapid movement of products made in Greater Philadelphia."

FLOUR CITY is gratified to have been chosen to cooperate with the architects and the builders of the structure described by the above words quoted from a pamphlet entitled, "Philadelphia International Air Terminal".

Architectural metalwork, largely aluminum, is custom designed throughout, details and construction being developed logically from the functional requirements of the various items. These items include the glazed front wall of the entrance on the north front of the building. This area of glass framed in aluminum is some 100 feet wide by 40 feet high. Vertical mullions, suspended from above, have their function of resisting horizontal wind loads expressed by their form, having greatest depth at the mid point between floor and ceiling.

Two "fingers" extend Southward from the main structure at either side of the loading area, enclosed at second floor level by aluminum windows and spandrels. Each some 530 feet in length the spandrels on these and other portions of the structure achieve a total linear footage of some 2800 feet—more than a half mile. Window area also might well be expressed in acres rather than feet. Windows are of varying types—fixed, double hung and projected.

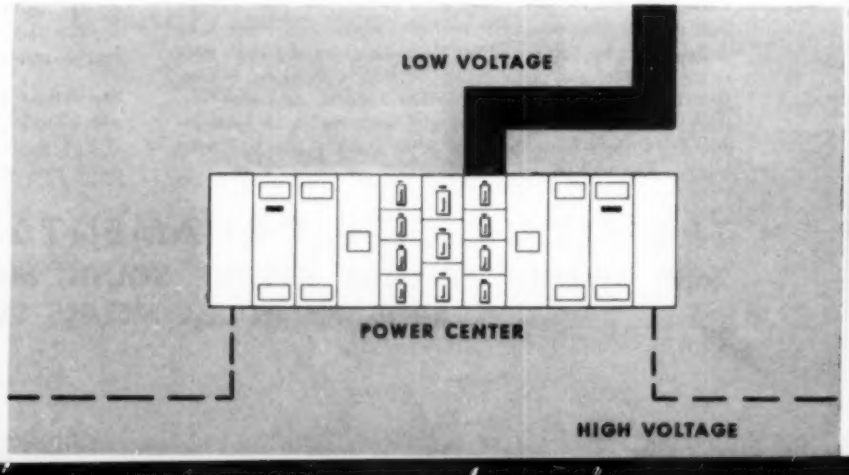
The large fixed windows at third floor on the South elevation facing the field have their lower section sloped outward at the top for observation of the field while the upper section has the opposite slope for looking aloft, line of vision in each case being roughly perpendicular to the plane of the glass.

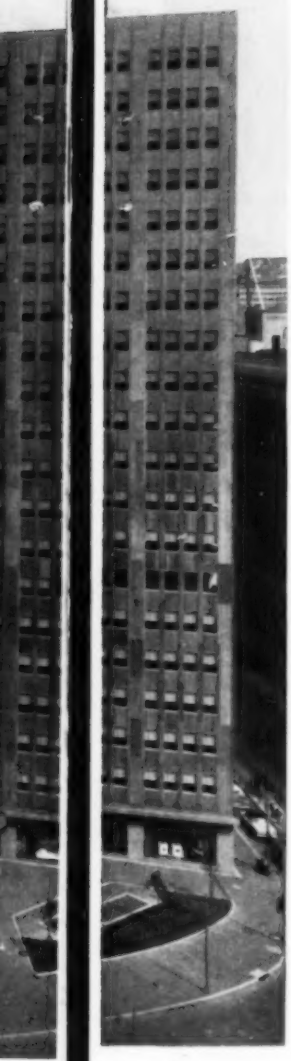
Illustrations on this page, plus those which appear in connection with editorial description of the structure elsewhere in this issue of **P/A** show the important contribution of **FLOUR CITY** quality metal work to the success of this notable project.

THE FLOUR CITY ORNAMENTAL IRON COMPANY

2637 TWENTY SEVENTH AVENUE SOUTH, MINNEAPOLIS 6, MINNESOTA

ARTISANS IN ALL METALS SINCE 1893


LOW VOLTAGE
POWER CENTER
HIGH VOLTAGE



A DESIGN STANDARD LIKE THIS DEMANDS USE OF MODERN POWER

The standards being set in today's office building design call for full utilization of modern electrical power. It's an important consideration—in view of such necessities as high-speed elevators and modern lighting, the heating, ventilating and air conditioning systems.

These devices, as you know, have placed greater demands on a building's electrical system. *More* power must be carried. And power *quality* has had to be improved to minimize outages, assure well-regulated voltage.

Thus, a modern, completely adequate electrical system is extremely vital if the service devices you design-in are to operate at peak efficiency. Literally, it's an integral part of the building's foundation. It should be considered in the study stage . . . keyed to the services that will operate from it . . . built with equally modern electrical power equipment.

By so doing, you'll be bringing the power facilities up to the standards you've set for design. And you'll be providing your client with a better building—economically sound and adequately equipped to handle the many functions it must perform.

For assistance on modern electrical system planning, call the construction application engineer in your nearest Westinghouse Office. Westinghouse Electric Corporation, Construction Dept., Building 12-L, East Pittsburgh, Pa.

DP-5002-A

YOU CAN BE **SURE**...IF IT'S **Westinghouse**

WHAT IS A MODERN ELECTRICAL SYSTEM? It's an integral part of basic design—not superimposed or considered after the building is under construction.

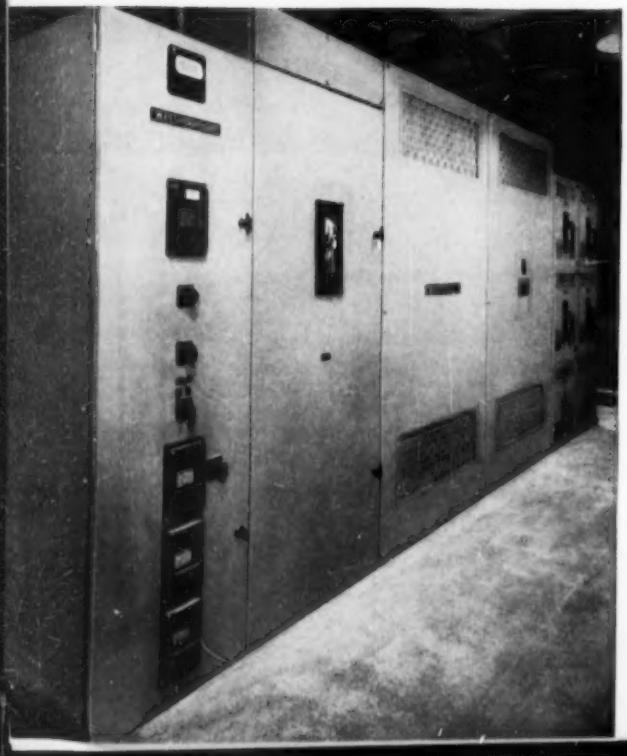
The modern system is planned around requirements for reliability, versatility and convenience. And it stresses electrical characteristics essential to building services. Therefore, system design will vary—based on the type of building involved.

The Spot Network System, left, is an example. It emphasizes "reliability"—an important requirement in large office buildings. Efficient, high-voltage power is brought close to building loads from two or more sources. An electrical fault at one source will not interrupt power to the loads being served.

FOR YOU . . . 24-page book, covering modern electrical systems and equipment for commercial buildings. Valuable adjunct to your design planning. Write at no obligation for *Cornerstone or Tombstone*, B-6151. Westinghouse Electric Corp., 3 Gateway Center, P. O. Box 868, Pittsburgh 30, Pa.

AIM:

MATCH PEAK TRAFFIC WITH PEAK POWER



High-speed elevator service—demanded when tenants must be moved quickly during heavy traffic hours—should begin at the electrical system planning stage.

The need for completely adequate power distribution makes this so. Not only do high-speed elevators require *more* power, but their drives are usually located in the penthouse—far removed from the power source. Thus, the electrical system must carry *heavier* loads *greater* distances. Yet, it has to hold voltage and power losses to a minimum.

A typical way: *High-voltage* distribution—carrying high voltage from power source in the basement close to the electrical center of load in the penthouse. This modern practice stabilizes voltage. It eliminates line losses that result from long runs of secondary lines. It assures adequate capacity for heavy electrical loads.

At the center of load, then, high voltage is stepped down to operating levels with a Westinghouse Dry-Type Power Center. It installs anywhere to feed the elevator equipment and other local loads. No need for a vault. And the dry-type transformers and air circuit breakers minimize maintenance.

DP-5002-B

WESTINGHOUSE DRY-TYPE POWER CENTER . . .
a compact substation that permits high voltage to be carried close to elevator and other remote loads. Comes ready to install.

AIM:

MATCH MODERN AIR CONDITIONING WITH MODERN CONTROL

Modern air conditioning is another tenant demand completely dependent on the electrical facilities behind it.

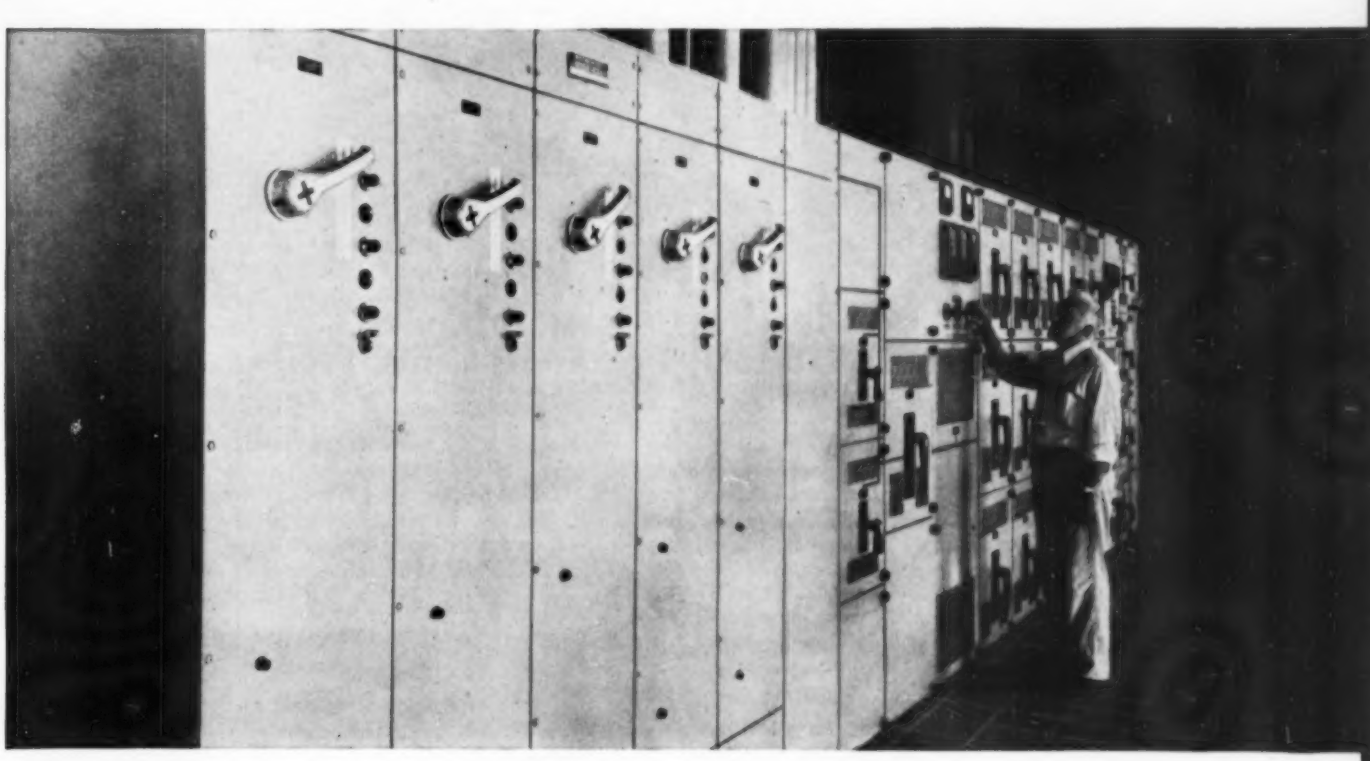
A number of motors and controls is involved in the modern air conditioning system. Thus, early steps should be taken electrically to assure continuous circulation of conditioned air—to the various building services.

In many modern buildings, all control equipment is located in one spot. This brings about easier operation and simplifies maintenance.

More complete integration of the controls is possible with a Westinghouse Control Center. It centralizes motor starting and protective devices in a compact enclosure that installs easily in any convenient location. Then, operating personnel can check operation of all motors at a glance.

In addition, Westinghouse Control Centers meet future requirements. This flexibility is due to standardized design and modular construction of the units.

DP-5002-C



WESTINGHOUSE CONTROL CENTER centralizes electrical control for building air conditioning systems in a single enclosure. At right: Secondary control for wound rotor motor drives . . . typical of the Westinghouse complete line of air conditioning compressor motor control.

YOU CAN BE **SURE**...IF IT'S

Westinghouse

AIM:

MATCH FIXTURES TO FUNCTIONS

Effective illumination demands this consideration: Lighting systems must be matched to functional requirements, yet blend harmoniously with building design.

This is particularly difficult in general office areas where sharp contrasts must be minimized. Thus, to keep contrast between fixture and ceiling down—to prevent specular reflection from shiny surfaces—indirect lighting is required.

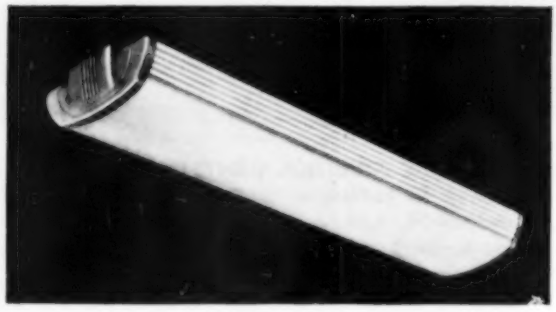
When you select the fixture, you must balance the desirability for comfort—obtained with indirect lighting—with the requirement for efficiency, realized through direct lighting.

Other factors also affect the selection. Fixture design and proportion and the ultimate lighting layout must blend with interior design.

Above is an outstanding example of how these considerations have been met. A Westinghouse CD-80 Luminaire was selected. It assures both comfort and efficiency by providing direct *and* indirect lumination. It blends well with room proportions . . . gives quality light for detailed office work . . . maintains the same high level of balanced design that exists throughout the building.

Architecturally, complete advantage was taken of the 10′ ceilings. Fixtures were suspended approximately 2′. This permitted installation of a comfortable system of continuous semi-indirect lighting. Today, it still maintains a desk-top lighting level of over 40 footcandles.

DP-5002-D



YOU CAN BE SURE...IF IT'S Westinghouse

AIM:

PROVIDE MAXIMUM RENTAL SPACE

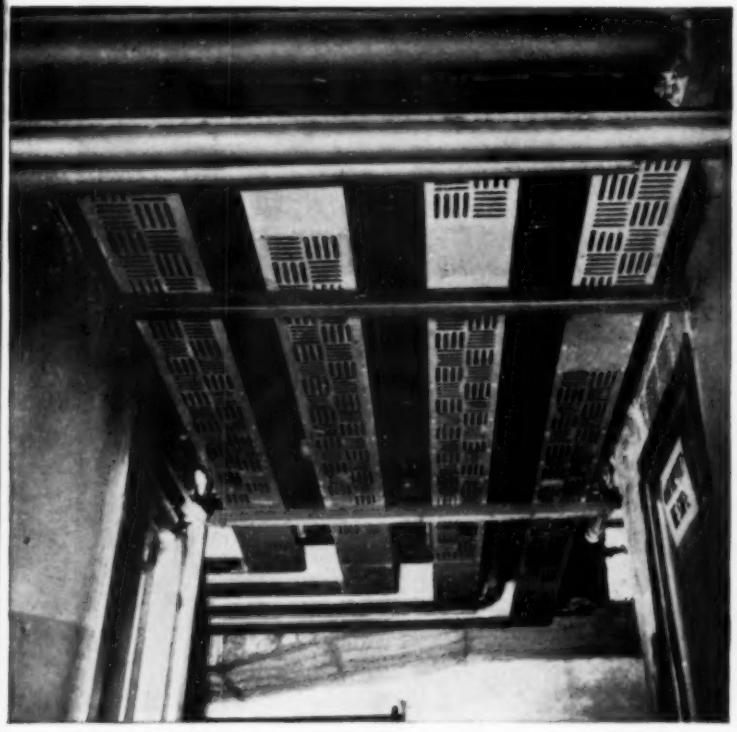
The heavier electrical loads elevator, air conditioning and lighting systems place on a building's power system make selection of its component parts a vital consideration. This equipment must have adequate capacity for increased loads. Yet, it should be compact to release maximum space to your client.

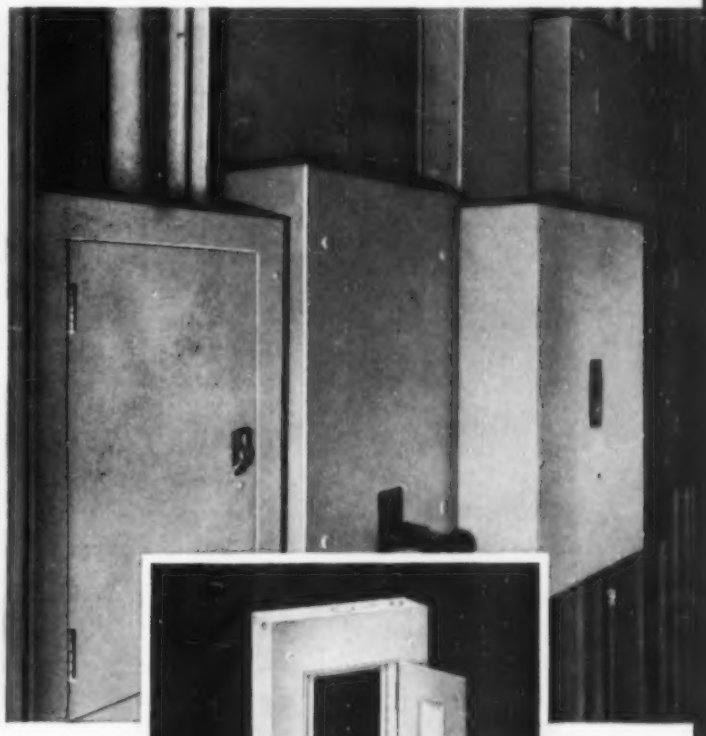
Modern distribution equipment answers these requirements. Example: Westinghouse Bus Duct—a highly efficient way to distribute low-voltage power. Up to 5000 amperes, in fact, it packs more power into less space than any other method of secondary electrical distribution.

Westinghouse Bus Duct comes in standard, prefabricated sections that adapt perfectly with building plans. It can be installed in elevator shafts or wireways. When exposed, its neat appearance blends well with interior design.

The inherent flexibility of bus duct is another "plus". It provides adequate reserve capacity to handle future loads. Expensive rewiring is eliminated.

DP-5002-E





MATCH LIGHTING INSTALLATION WITH MODERN PANELBOARDS to give your clients both adequate protection and the convenience of circuit breakers. Westinghouse NPLAB-type lighting panelboard, here, features the compact Quicklag® P AB De-ion® circuit breaker. It enables you to design circuit protection into a smaller panelboard . . . and saves valuable closet space.

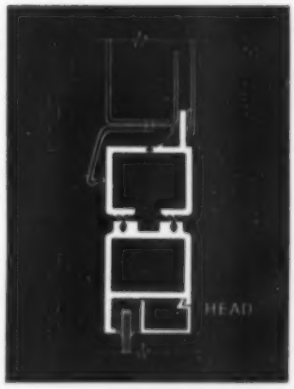
REYNOLDS

Equitable Life Building, San Francisco

Architects:
Loubet and Glynn, successors to W. D. Peugh, San Francisco
Consulting Architect:
Irwin Clavan, New York
General Contractor:
Dinwiddie Construction Company, San Francisco
Architectural Metal:
The Kawneer Company, Berkeley, Calif., and Niles, Mich.
Windows:
Reynolds Metals Company, Louisville

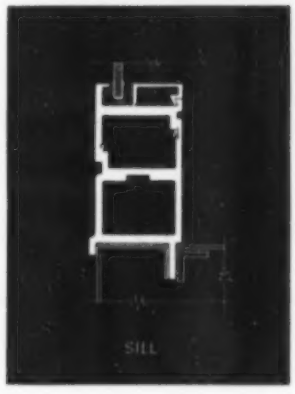
ALUMINUM APPLICATIONS IN THIS BUILDING:

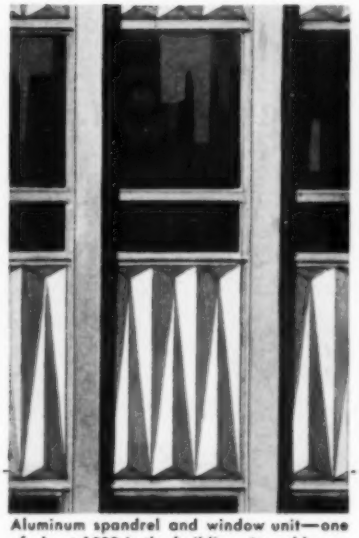
Spandrels, formed sheet
Framing members for exterior metal work
Reynolds Aluminum Windows, Series #100, Center Pivoted Vertically with Hopper Vent



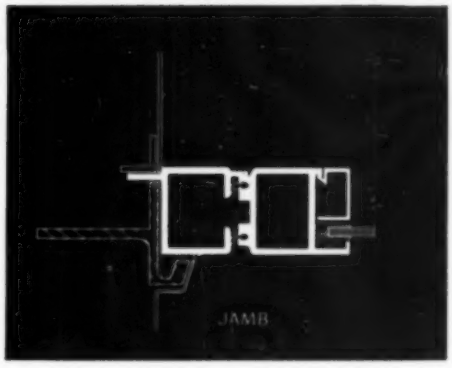
REYNOLDS ALUMINUM SERVICE TO ARCHITECTS

Reynolds Architect Service Representatives offer specialized assistance on aluminum design problems, on applications of standard aluminum mill products, and on the use of commercially fabricated aluminum building products. They can help to coordinate varied aluminum requirements for procurement efficiency and economy. Please address inquiries to . . . Architect Service, **Reynolds Metals Company,** Louisville 1, Kentucky.





Aluminum spandrel and window unit—one of about 1500 in the building. Assembly was tested under hurricane conditions simulating 12" rainfall with winds up to 70 mph.



SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network

ALUMINUM

WINDOWALL *of four Andersen Gliding Window Units—Donald Grieb, architect*

WINDOWS STYLED FOR PLEASANT LIVING

THE PLEASING VIEW of an attractive yard is fully captured through effective use of these Andersen Gliding Windows. In homes you plan or build, count on Andersen WINDOWALLS to bring warmth and beauty to design, coupled with weatherproof protection and insulation that will save dollars during both heating and air conditioning seasons.

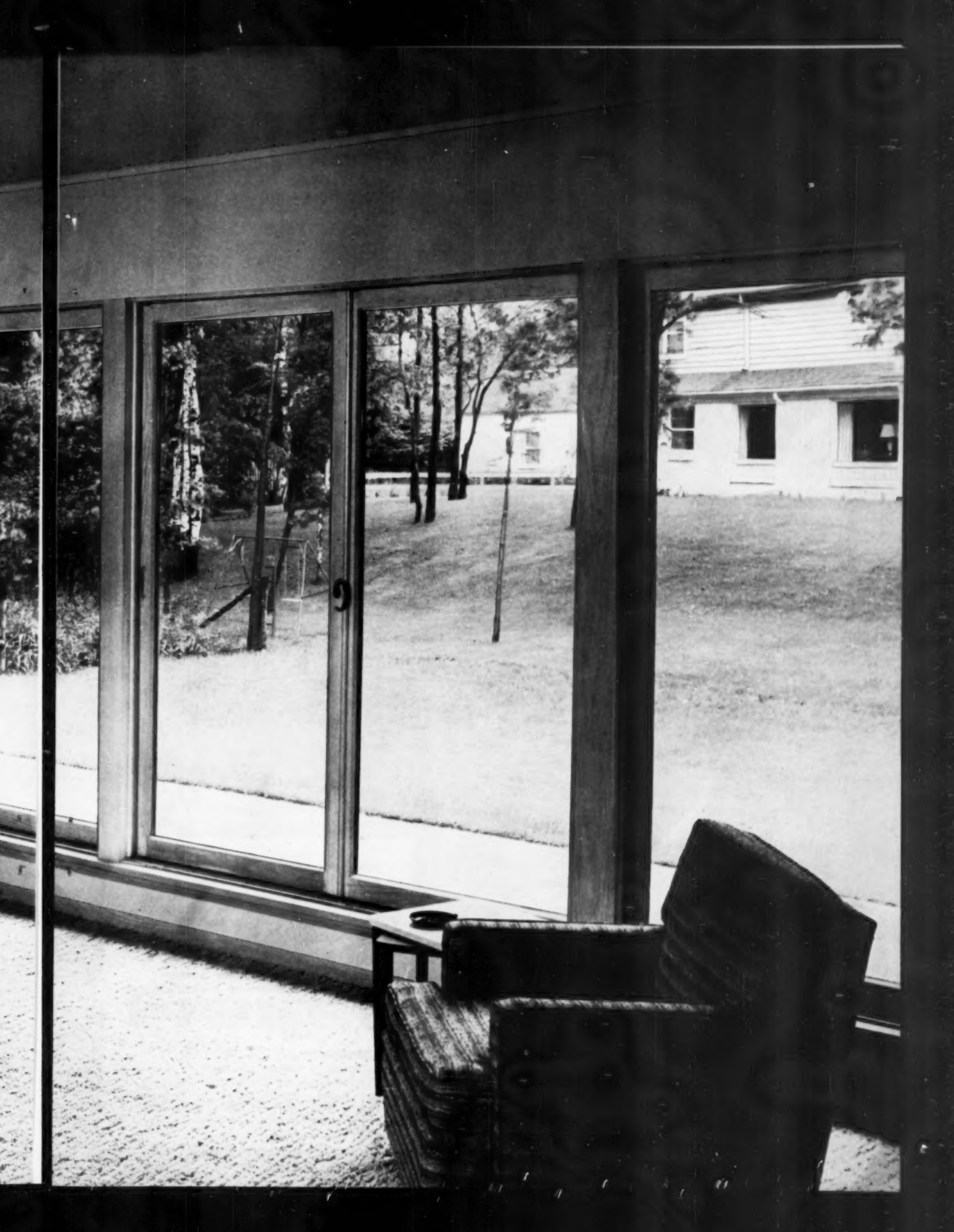
Write for Detail Catalog, or Tracing Detail File. Or see Sweet's Files for specification data. WINDOWALLS are sold by established millwork dealers throughout the United States including the Pacific Coast.

*TRADEMARK OF ANDERSEN CORPORATION

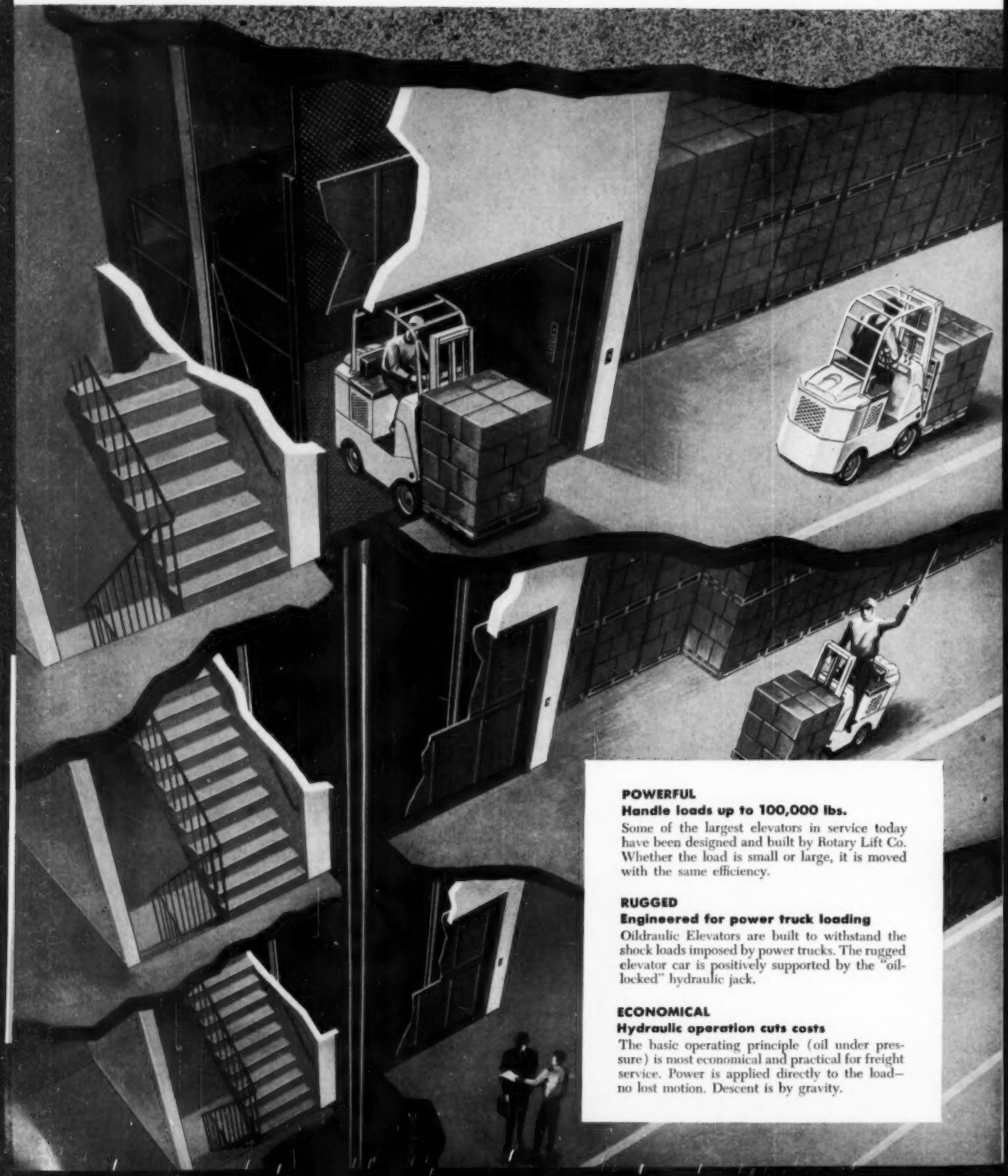
Andersen *Windowalls** MADE BY Andersen Corporation

BAYPORT, MINNESOTA

COMPLETE **WOOD** WINDOW UNITS



New efficiency and



POWERFUL

Handle loads up to 100,000 lbs.

Some of the largest elevators in service today have been designed and built by Rotary Lift Co. Whether the load is small or large, it is moved with the same efficiency.

RUGGED

Engineered for power truck loading

Oildraulic Elevators are built to withstand the shock loads imposed by power trucks. The rugged elevator car is positively supported by the "oil-locked" hydraulic jack.

ECONOMICAL

Hydraulic operation cuts costs

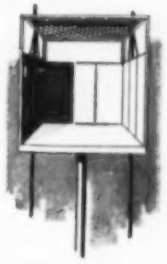
The basic operating principle (oil under pressure) is most economical and practical for freight service. Power is applied directly to the load—no lost motion. Descent is by gravity.

economy in freight elevators

Rotary Oildraulic Elevators have these architectural and operating advantages

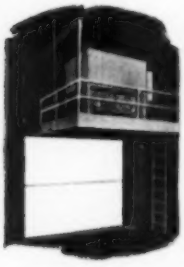
No costly, unsightly penthouse

Because it's pushed up from below, not pulled from above, the Oildraulic Elevator requires no unsightly penthouse. This permits a saving of several hundred to thousands of dollars, and improves the design of a building.



Lighter shaftway structure

There's no need for heavy, load-bearing sidewall supporting columns and footings to carry the car, counterweight, overhead machinery, and the load. Rotary's Oildraulic jack supports the entire system from below.



Flexibility in power unit location

A machine room can usually be dispensed with because Rotary's compact power unit can be located at any convenient spot on any landing and on any side of the hatchway . . . or in an area with other equipment.

Low operating and maintenance cost

As the pump, all valves and the plunger operate in oil at all times, wear is negligible. Motor is used only when car rises—half the usual service. Smooth operation reduces shock and wear. No cables to replace periodically.

New Rotary Development

PATENTED OILDRAULIC CONTROLLER guarantees smooth starts, accurate landings

The revolutionary Rota-Flow oil-hydraulic power system gives velvet-smooth starts and cushioned stops. Oildraulic automatic floor leveling positions the elevator car to each landing with exactness . . . ¼" accuracy guaranteed. The new Oildraulic Controller is a very remarkable device that handles the functions of seven separate control valves . . . simplifies adjustments and maintenance.

Rotary electric control systems are tailored to exact requirements and any desired type of operation can be furnished. For planning assistance call on our Engineering Department.

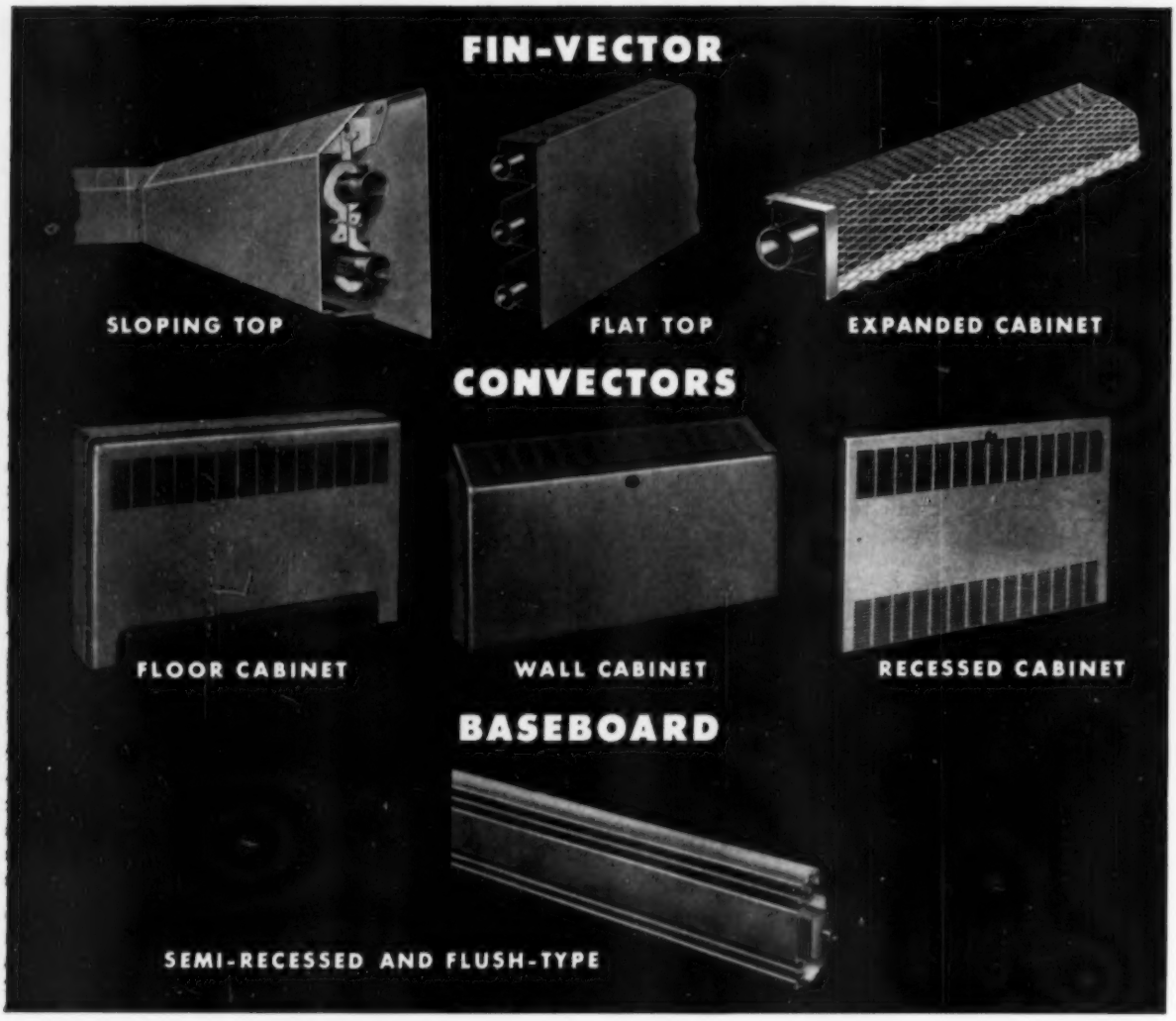
Rotary® OILDRAULIC®

Freight Elevators

THE MODERN ELEVATOR FOR MODERN BUILDINGS

Engineered and built by Rotary, world's oldest and largest maker of oil hydraulic lifts

SEE OUR FILE IN SWEET'S—For catalog and complete architectural data, write ROTARY LIFT CO., 1105 Kentucky, Memphis 2, Tenn.



Here's *everything* you need in radiation ...from the *complete* Dunham line

Getting your hands on the *particular kind* of radiation you need is fast and simple . . . when you depend on Dunham. The reason, of course, is that Dunham has as complete a line of quality radiation as you can find . . . *anywhere!*

So why bother to shop around getting one *type* of radiation here . . . another *type* there? Why not, instead, depend on Dunham for everything you need in radiation from flush-type or semi-recessed baseboard; flat top, sloping top or expanded metal along-the-wall Fin-Vector®; to sturdy, attractive high-capacity convectors.

"Let Dunham do it" and you not only get everything you need in a hurry, you also place full responsibility for your job's performance on one set of shoulders—Dunham's. For complete information about this complete radiation line, clip and mail the coupon.

DUNHAM HEATING & COOLING EQUIPMENT

RADIATION • CONTROLS • UNIT HEATERS • PUMPS • SPECIALTIES

QUALITY FIRST FOR FIFTY-ONE YEARS

C. A. DUNHAM COMPANY • CHICAGO • TORONTO • LONDON

C. A. DUNHAM COMPANY
Dept. PA-9, 400 West Madison Street
Chicago 6, Illinois
Send literature on ☐ Baseboard ☐ Fin-Vector ☐ Convectors.

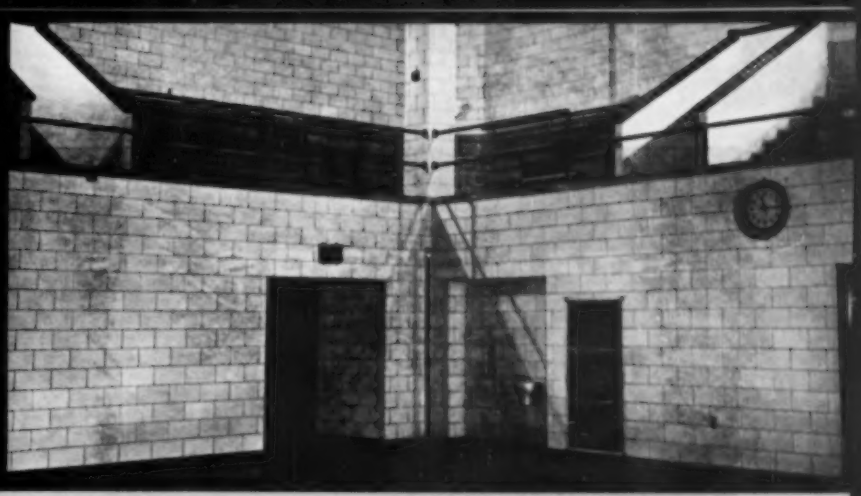
Name_____

Firm_____

Address_____

City_____ Zone____ State____

-Which Facing Tile job is brand new?



North Shore Hospital Nurses' Station, Emergency Admitting Section
Manhasset, Long Island. Architect: Isadore Rosenfield

Wauwatosa High School Gymnasium, Wauwatosa,
Wisconsin. Architects: Herbst & Knuese

-Which is 16 years old?

As these two recent photographs show, it's hard to guess the age of a well laid-up wall of structural clay Facing Tile.

Thanks to walls of durable Facing Tile, a 16-year-old school gymnasium (top, right) looks just as clean and bright today as a nurses' station in a brand new hospital (bottom, left).

You can *count* on Facing Tile for satisfactory performance—

- *as an economical wall-and-finish in one*
- *as a positive help to sanitation and maintenance*
- *as a permanent, pleasing color background*

Facing Tile has been thoroughly tested by years of varied uses in practically every category of building. It gives you more for the dollar than any other single building material.

For complete data on Facing Tile, just write one of the Institute offices listed below.

LOOK FOR F·T·I THIS SEAL

Used only by the members of the Facing Tile Institute, it is your assurance of highest quality. In the interest of better Facing Tile construction the companies listed here have contributed to the preparation of this advertisement.

CHARLESTON CLAY PRODUCTS CO.
Charleston 22, West Virginia

THE CLAYCRAFT CO.
Columbus 16, Ohio

HYDRAULIC PRESS BRICK CO.
Brazil, Indiana

MAPLETON CLAY PRODUCTS CO.
Canton, Ohio

METROPOLITAN BRICK, INC.
Canton 2, Ohio

NEWERS-KITTANNING CO.
Kittanning, Pennsylvania

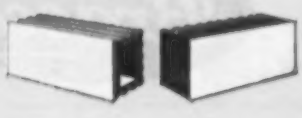
NATCO CORPORATION
Pittsburgh 22, Pennsylvania

STARK CERAMICS, INC.
Canton 1, Ohio

WEST VIRGINIA BRICK CO.
Charleston 24, West Virginia

FACING TILE INSTITUTE

1520 18th Street, N. W., Hudson 3-4200, Washington 6, D. C. • 1949 Grand Central Terminal, Murray Hill 9-0270, New York 17, N. Y. • 2556 Clearview Avenue, Canton 5-5329, Canton 8, Ohio • 221 N. LaSalle St., Andover 3-6449, Chicago, Ill.



STANDARDS OF *Quality*

Cadillac

SOUTH SHORE BRANCH
Chicago

☆

Brasco

STORE FRONTS AND ENTRANCES

architects	Argonaut Realty Division, General Motors Corp., Detroit
associated architect	Victor L. Charn, Chicago
general contractors	S. N. Nielsen Co., Chicago
installation and glazing	Hamilton Glass Co., Chicago

Brasco Anodized Aluminum Store Front Settings
No. 420 Facia Moulding (entire length of building)
Four Brasco DeLuxe Aluminum Entrances

Brasco

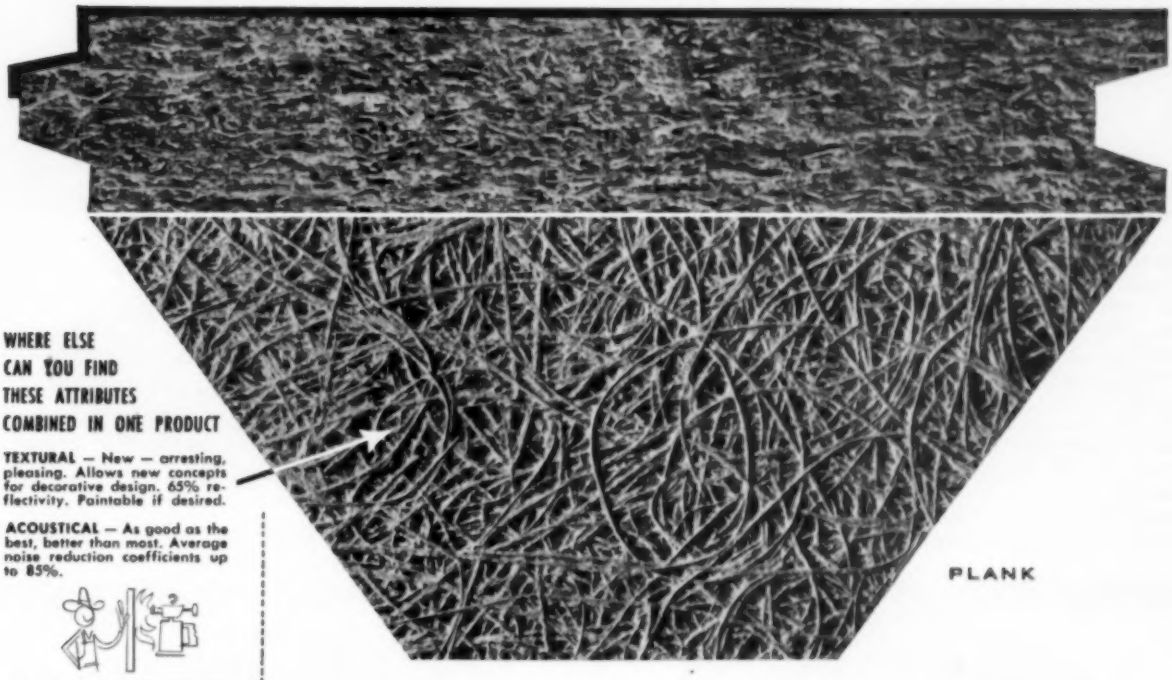
For Complete Information Write Dept. P 409

MANUFACTURING CO. HARVEY, ILLINOIS

Metal Store Front Specialists for more than 40 Years

UNLIMITED DESIGN POSSIBILITIES

WITH Tectum® ROOF PLANK AND ROOF TILE



WHERE ELSE CAN YOU FIND THESE ATTRIBUTES COMBINED IN ONE PRODUCT

TEXTURAL — New — arresting, pleasing. Allows new concepts for decorative design. 65% reflectivity. Paintable if desired.

ACOUSTICAL — As good as the best, better than most. Average noise reduction coefficients up to 85%.

INSULATIVE — 3" thickness has the low "U" factor of .15. Thickness of 2" has the low "U" factor of .20.

NON-COMBUSTIBLE — Rated non-combustible under Federal Specification SS-A-118a, and by the National Bureau of Fire Underwriters, based on fire hazard tests at Underwriters' Laboratories, Inc.

LIGHT WEIGHT — Lighter than most woods. 20# to 24# per cubic foot.

STRUCTURAL — Engineered to carry roof loads up to 200# per square foot on economical spans.

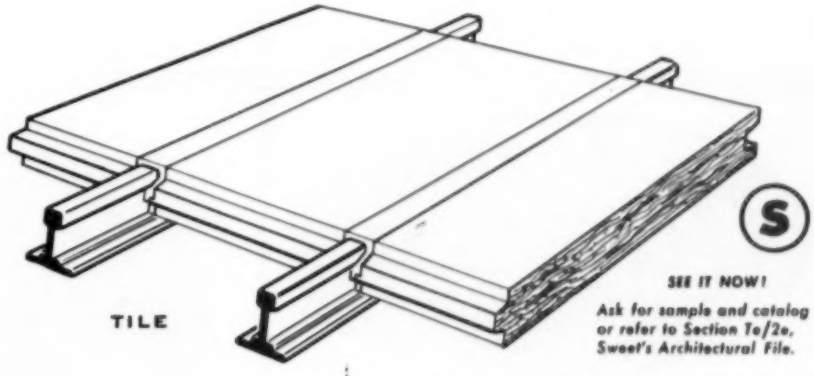
STABLE — Dimensionally stable. At humidities of 98% R. H., average dimensional change is only 13/100 of 1%.

LOW COST — Planks 30" wide and standard tiles 22"x48" lay faster. Cost less installed.

TERMITE AND FUNGUS PROOF — Does not support fungus growth or termite life.

New, Striking, Decorative! Tectum Roof Decks are specified, used, and proven by leading architects, engineers and contractors. Tectum Roof Plank and Roof Tile offer unlimited design possibilities for today's modern structures. Tectum combines all of the basic requirements of a roof deck — and plus values in a single product.

Tectum® is a uniform mat of wood fibers laid down in a continuous process, impregnated and fire-proofed with an inorganic binder, compressed, dried, and cut to size.



SEE IT NOW!

Ask for sample and catalog or refer to Section Te/2e, Sweet's Architectural File.

Tectum corp.

105 SOUTH SIXTH STREET
NEWARK, OHIO

TECTUM CORP.
Dept. #100, 105 S. Sixth St., Newark, Ohio
_____ Send sample and catalog.
_____ Send sample only.
Name _____ Title _____
Company _____
Address _____ City _____ State _____

THE Aerofuse LINE

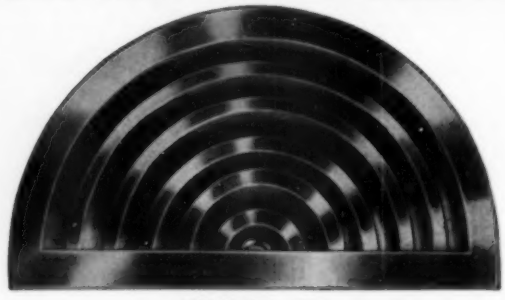
In appearance, Aerofuse Diffusers are styled to harmonize with contemporary architectural concepts . . . in performance, the flexibility of the line permits engineers to select a type and size that will operate with top efficiency . . . simplicity of design and rugged construction result in simplified installation. Good reasons why Aerofuse Diffusers have nation-wide acceptance by architects, engineers, contractors and owners, and are installed in the most modern multi-story office buildings and department stores, in commercial and recreational buildings, institutions and industrial plants . . . wherever people work or relax in air conditioned comfort.

TYPE PA
Adjustable pattern diffuser

TYPE PR
Flush type, fixed pattern supply and return diffuser

TYPE PLF
Flush type, fixed pattern diffuser combined with light fixture

TYPE S
Flush type, fixed pattern diffuser

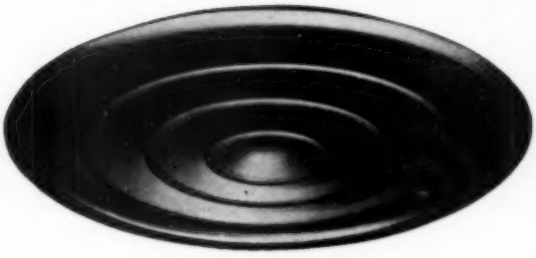


TYPE H
Flush type, fixed pattern half-round diffuser

Accessory Equipment

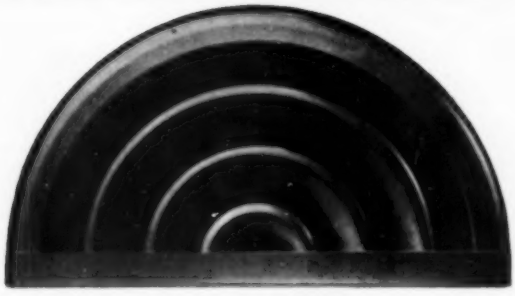
To meet specific air delivery requirements, volume control dampers, distributing grids, blanking baffles, and other accessory equipment is available for all Aerofuse Diffusers.

A wide selection of diffuser types and sizes, styled and engineered to meet the most rigid requirements of appearance and performance at the point of air delivery

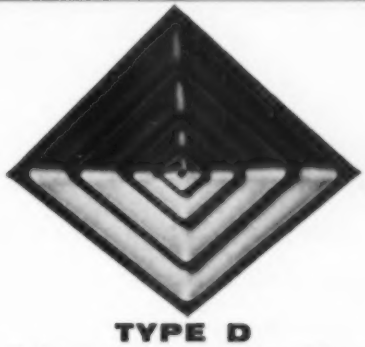


TYPE PS
Stepped-down type, fixed pattern diffuser

TYPE PF
Flush type, fixed pattern diffuser



TYPE PH
Flush type, fixed pattern, half round diffuser



TYPE D
Flush type, fixed pattern square diffuser

TYPE ES
Stepped-down type, fixed pattern diffuser

TUTTLE & BAILEY inc

NEW BRITAIN, CONNECTICUT

NEW . . . Aerofuse Catalog No. 108.

Complete information on the Aerofuse line of ceiling diffusers and accessory equipment, engineering data, size selection charts and directions for installation. Send for your copy today.

permanently eliminated

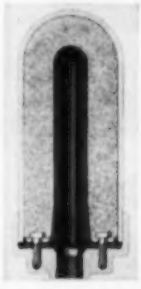
with the NEW Josam

SHOCK ABSORBER

simple...trouble-proof...easy to install!

● Now, you can provide permanent protection against the annoyance and destructive action of water hammer — with the new Josam Shock Absorber. Water hammer is unpredictable. It happens in the finest installations—it happens without warning! It is a common problem on pipe lines where there are quick closing faucets and valves, spring operated mechanisms and similar devices.

The new Josam Shock Absorber gives you "hospital quiet" in all plumbing lines. Due to the specially designed Absorbo tube and insert, the Josam Shock Absorber dissipates the thrust and impact of the water entering the tube. As the shock recedes, the tube and insert regain their original form, ready to receive the next shock impulse. To eliminate water hammer permanently . . . specify them on all piping installations. Send coupon for descriptive literature.



Cutaway view showing Absorbo tube and insert in normal position.

Showing how Absorbo tube and insert expand to absorb shock.

Series No. 1480

JOSAM MANUFACTURING COMPANY
DEPT. P. A. • MICHIGAN CITY, INDIANA
Please send free copy of new folder on Shock Absorbers

NAME ..... BUSINESS .....
FIRM .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

JOSAM MANUFACTURING COMPANY

GENERAL OFFICES AND MANUFACTURING DIVISION
MICHIGAN CITY, INDIANA

Representatives in All Principal Cities

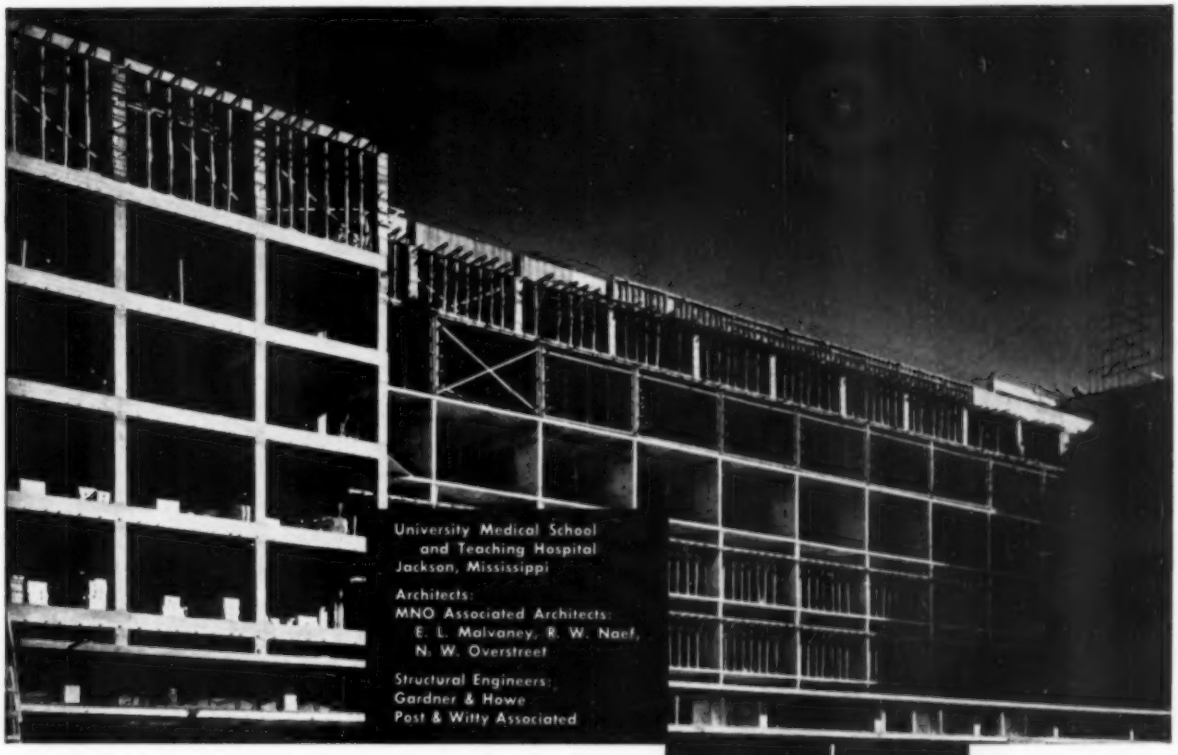
West Coast Distributor
JOSAM PACIFIC CO., San Francisco, Calif.

Canadian Manufacturers
JOSAM CANADA LIMITED, Toronto, Canada

For this $8,000,000 medical school and hospital, Mr. N. W. Overstreet, one of the architects, writes, "No other systems were considered, because we know that reinforced concrete is less expensive and better." Mr. H. N. Howe, the structural engineer, adds, "Numerous studies over a period of years have invariably shown that a reinforced concrete frame is more economical for fireproof buildings of light occupancy."

On this job, as on jobs over the entire country, reinforced concrete gives a better structure for less money—and materials are always readily available for quick starts. It's a flexible medium, too, inherently firesafe, and highly resistant to shock. On your next job, design for reinforced concrete.

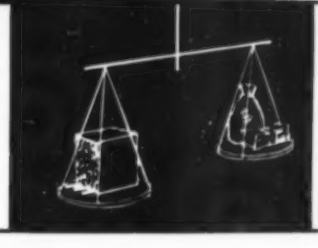
"we know that REINFORCED CONCRETE is less expensive and better"



University Medical School
and Teaching Hospital
Jackson, Mississippi

Architects:
MNO Associated Architects:
E. L. Malvaney, R. W. Naef,
N. W. Overstreet

Structural Engineers:
Gardner & Howe
Post & Witty Associated



Compare...

YOU'LL SAVE WITH REINFORCED CONCRETE

38 South Dearborn Street • Chicago 3, Illinois

CONCRETE REINFORCING STEEL INSTITUTE

Before you specify **any** tile flooring, consider the distinctive difference in

MATICO PARQUETRY

There is a difference in MATICO Parquetry tile flooring. It's different in appearance . . . rich, luxurious, in perfect keeping with any style of architecture or decorative plan. There is a difference in cost, too. For all its richness and beauty, MATICO Parquetry costs no more than *ordinary* asphalt tile flooring. And Parquetry is durable . . . stain and water-resistant . . . easy to clean . . . can be installed on, above or below grade and performs efficiently over concrete slab foundations.

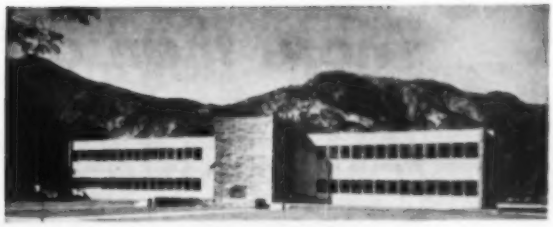
Yes, when next you specify tile flooring, consider the many advantages offered by MATICO Parquetry. Parquetry comes in four distinctive shades — walnut, mahogany, oak and maple — in 9 x 9, ⅛" sizes. Write Department 9-4 for details and specification data today!

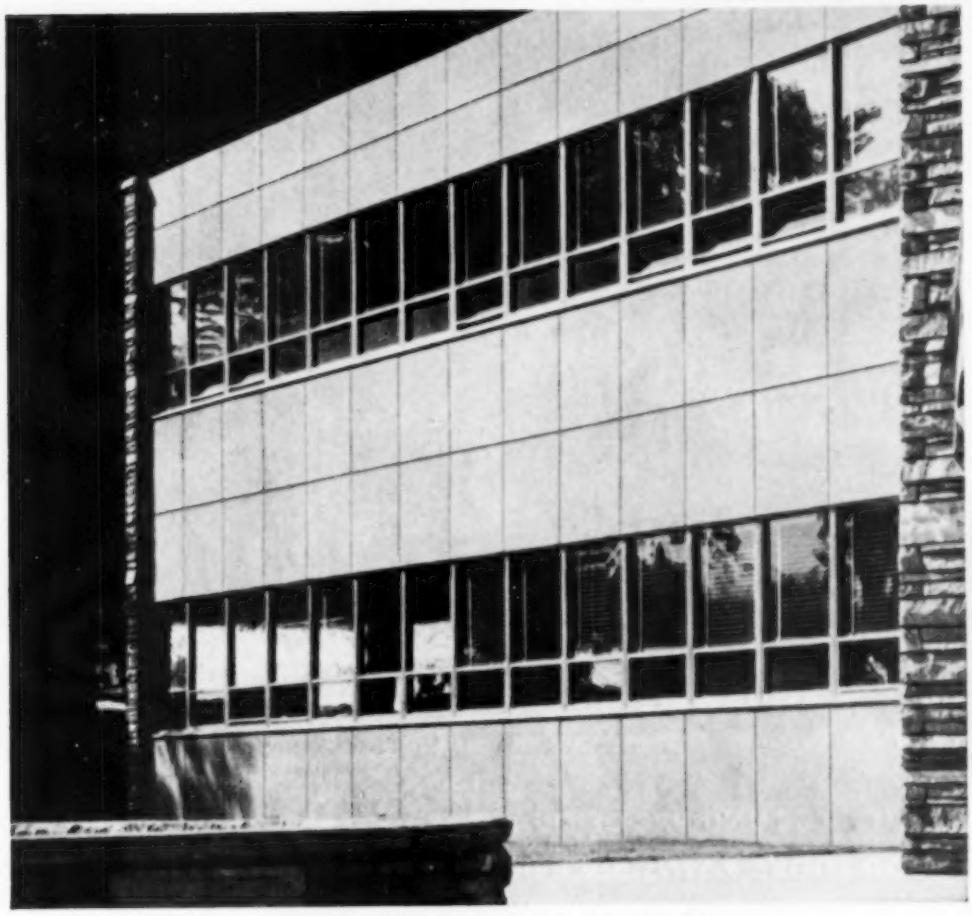
QUALITY CONTROLLED MATICO PRODUCTS

MASTIC TILE CORPORATION OF AMERICA

Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.

Manufacturers of: Aristoflex • Confetti • Parquetry • Asphalt Tile • Cork Tile • Plastic Wall Tile





Municipal Building, Boulder, Colorado. Architect: James M. Hunter, Boulder, Colo. Contractor: Jack A. Cyr, Denver, Colorado. Windows: Lupton Master Aluminum Windows.

Perfect match . . . with Lupton Windows

The Lupton Master Aluminum Windows in this new, modern building are as trim and sleek as the building itself. Adapted from a standard design, there is an open-in ventilator at the bottom only. The upper part of the window is a large sheet of fixed glass. New today, these windows will stay "new" for Lupton Master Aluminum Windows defy time and the elements. The ventilating sections will always work easily and maintain full contact on all edges when closed . . . their alignment will never be distorted by clogging paint.

Ageless beauty is another Lupton Master Aluminum Window feature. Frames weather to a soft, neutral gray complementary to any color. And, that beauty is permanent, protected by sturdy strength. Special aluminum alloy is extruded at the Lupton plant into deep frame and ventilator members, assuring dependable strength for large glass areas in either single or double glazing. Sound construction, based on over 40 years experience, plus the paint-free lifetime qualities of aluminum keep maintenance expense at rock bottom.

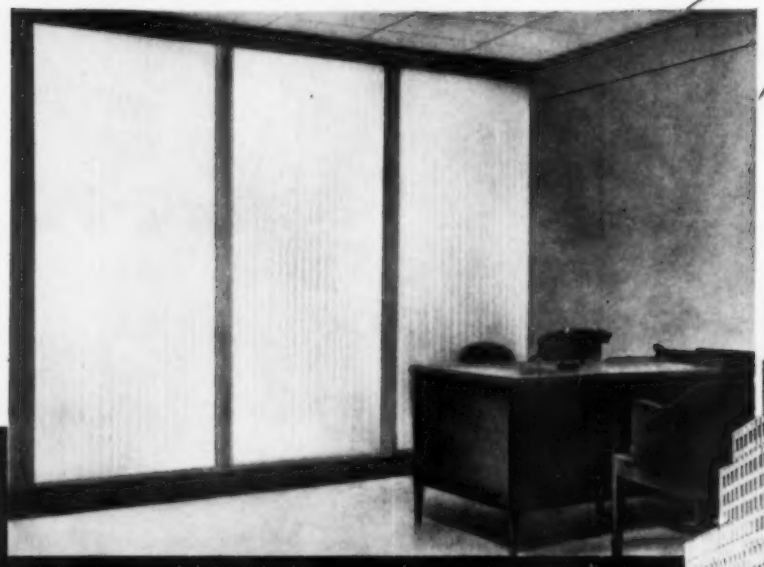
Get the complete story today . . . about Lupton Master Aluminum Windows, and the full Lupton line of Steel and Aluminum Windows. See it in Sweet's or write direct.

MICHAEL FLYNN MANUFACTURING CO.
700 East Godfrey Avenue, Philadelphia 24, Pa.

LUPTON METAL WINDOWS

Member of the Steel Window Institute and Aluminum Window Manufacturers' Association

More than a MILE of AETNAWALL



in National Distillers Products Corporation's new 120,000 square feet headquarters at 99 Park Avenue, New York.

AETNAWALL

was the choice because of these characteristic advantages:

• FLEXIBILITY • SOUND PROOF QUALITIES

• GOOD LOOKS • SENSIBLE PRICE

TISHMAN REALTY & CONSTRUCTION Co., Inc., owner-builder

Interior design & layout by MICHAEL SAPHIER & ASSOCIATES, INC.

The best in pre-fabricated movable walls for all uses . . . Product of

E. J. BOYLE DIVISION
AETNA STEEL PRODUCTS CORPORATION
14 Charlton Street, New York 14, New York

E.J.BOYLE

PRODUCERS OF: The new Arnot Partition-ettes; Arnot Functional Office Furniture; Hospital and Laboratory Equipment; Under-Counter Bank Equipment; Aetna Steel Doors and Frames; Kahr Bearings; Boyle Metal Office Partitions (Aetnawall).

Specify KENFLEX when you want a moderate-priced vinyl tile floor

A. I. A. 23-G

Interior design, Stanley Haggart... Photography, Maurice Bauman Studios

KENFLEX provides specifiers with a low-cost opportunity to add the saleable advantages of vinyl flooring to every home. Rooms as charming and practical as the kitchen shown, are what prospects look for... and the amazing durability of KENFLEX gives an added sales point because, even years later, it means easier, quicker resale.

Your clients would want KenFlex even if it cost much more than it actually does! KenFlex gives every advantage of higher-priced floors... can be installed on concrete below grade in contact with the earth, where so-called "Luxury" floors are impractical. KenFlex is durable vinyl-asbestos . . . easily outwears other types of resilient floors of the same thickness. Because it is nonporous, dirt, grit and grime can't be ground in underfoot . . . can't harm, stain or mar the smooth surface. And, KenFlex is easy to clean and *keep* clean . . . even if greases, oils, alcohols, alkalis, dyes or household acids are spilled on it. KenFlex colors go all the way through each tile . . . can't fade, dim or wear off. Waxing is not required...except to make the brilliant colors shine more.

Specifications and Technical Data

INSTALLATION: Over any smooth, firm interior surface: wood, plywood, radiant heated concrete slab, concrete in contact with the earth—on or below grade.

THICKNESSES: Laboratory and in-use tests have proven the wear-resistance and durability of vinyl flooring. Consequently, Standard Gauge (1/16") is recommended for normal residential and commercial uses. Where traffic will be severe, 1/8" KenFlex is suggested.

SIZES: Standard tile size is 9" x 9"...also available are 9" x 9" decorative ThemeTile inserts, and 1" x 24" Feature Strip in four solid colors.

Approximate Installed Prices (per sq. ft.)

	Standard (1/16") Gauge	1/8" Gauge
KENFLEX all colors	40¢	65¢

KenFlex is available in 15 co-ordinated colors, all of which are marbleized. Costs shown are based on a minimum area of 1,000 sq. ft. over cement underfloor.

Samples and Technical Literature available on request from any of the Kentile, Inc. offices listed below. Or, contact the nearest Kentile Flooring Contractor. He's listed under FLOORS in the Classified Telephone Directory.

KenFlex is the floor your clients know and want...

BACKED BY MORE FULL-COLOR ADVERTISING THAN ANY OTHER VINYL TILE FLOOR

KENFLEX® VINYL TILE

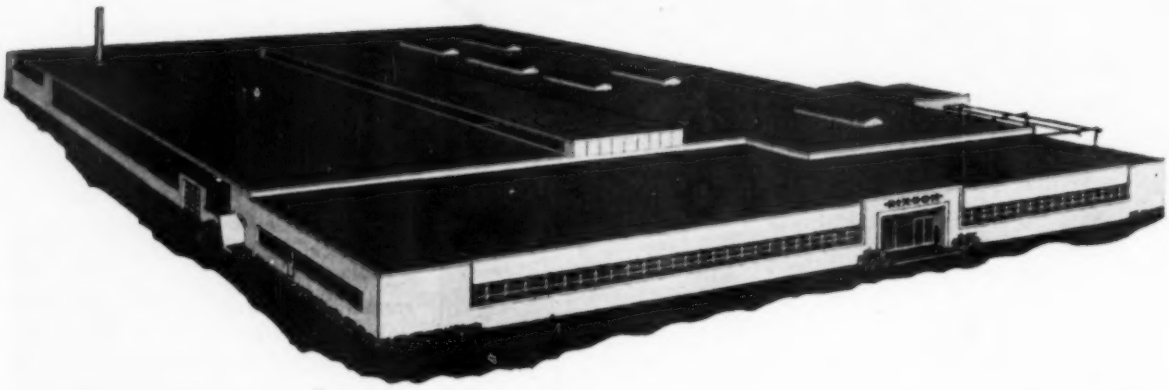
KENTILE • SPECIAL KENTILE • KENCORK • KENRUBBER • KENFLEX • KENFLOR

REG. U. S. PAT. OFF.

KENTILE, INC., 58 SECOND AVENUE, BROOKLYN 15, NEW YORK • 350 FIFTH AVENUE, NEW YORK 1, NEW YORK • 709 ARCHITECTS BUILDING, 17TH AND SANSOM STREETS, PHILADELPHIA 3, PENNSYLVANIA • 1211 NBC BUILDING, CLEVELAND 14, OHIO • 900 PEACHTREE STREET N.E., ATLANTA 8, GEORGIA 2020 WALNUT STREET, KANSAS CITY 8, MISSOURI • 4532 SO. KOLIN AVENUE, CHICAGO 32, ILLINOIS • 4501 SANTA FE AVENUE, LOS ANGELES 58, CALIFORNIA

RIXSON

has a *new home* with streamlined manufacturing facilities!



Be our guest at Franklin Park . . . on your very next trip to Chicago be sure to visit us here and inspect this new modern plant.

Continuing with the same careful, precision manufacturing from the finest quality materials . . . RIXSON products are now being built in this greatly expanded manufacturing area . . . in a planned production flow from the receiving platform through every step of production, assembly, and final shipping . . . assuring more positive control in deliveries. An even greater expansion has been made in product-development . . . in constant search for improvements of the design and function of RIXSON products as well as new products of builder's hardware mechanisms.

SINCE 1900 • manufacturers of single and double-acting CONCEALED DOOR CLOSING DEVICES and other improved mechanisms in builder's hardware.

our new address and phone numbers:

THE OSCAR C. RIXSON COMPANY

9100 west belmont ave. • franklin park, ill.

Franklin Park phones for local and long distance
GLadstone 5-6510

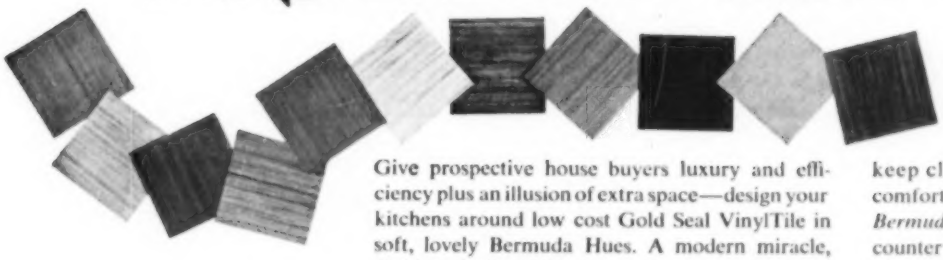
Chicago phones
NAtional 2-5400

for entrance, vestibule, and all interior room doors, specify RIXSON throughout

For a practical kitchen with a million dollar look

The points of the stars are made simply by slicing a tile diagonally. Seafoam White complements Mid-Ocean Blue, and both are carried right up the wall. Countertops: Pembroke Yellow.

specify Bermuda Hues *in Gold Seal VinylTile*



Give prospective house buyers luxury and efficiency plus an illusion of extra space—design your kitchens around low cost Gold Seal VinylTile in soft, lovely Bermuda Hues. A modern miracle, Gold Seal VinylTile gives you an impressive list of selling points. It resists everything from dirt to acids and alkalis... won't pit or scar under grease. It's easy to clean and keep clean... long wearing... resilient, quiet, comfortable under foot. Gold Seal VinylTile in *Bermuda Hues* (harmonized for floors, walls and counter tops) turns an ordinary kitchen into a showpiece. *Approved for on-grade installation even over radiant heat.* Standard gauge, 9" x 9" tiles. For samples and technical information write: Architects' Service Department.

Cooperating with
Better Homes and Gardens
Home for all America Program
See our products in these homes across the country

GOLD SEAL

GOLD SEAL® *Floors and Walls*

Satisfaction guaranteed or your money back. Your Gold Seal dealer is listed under "Linoleum" in your classified phone book. CONGOLEUM-NAIRN INC., Kearny, N. J.

LINOLEUM • VINYL INLAIDS • CONGOWALL® • RANCHTILE® • LINOLEUM TILE • VINYLTILE • VINYLBEST TILE • CORK TILE • RUBBER TILE • ASPHALT TILE

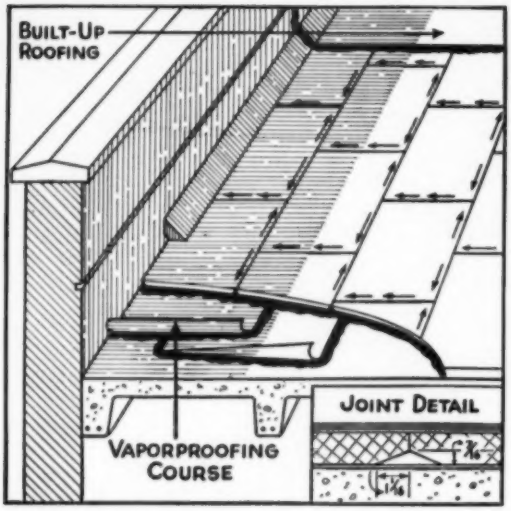
New Protection Against Roof Damage

NEW CELOTEX Channel-Seal

TRADE MARK

ROOF INSULATION

guards against blistering and separation of felt and insulation



As you can see in the diagram, high-pressure air pockets do not build up with Celotex Channel-Seal Roof Insulation. Pressures due to temperature differences are constantly being equalized by movement of air through the channels. This channeling principle of roof protection has been proved effective by many years of actual use on jobs of every type and size.

For an extra margin of safety against costly roof damage due to the building up of high-pressure air pockets where insulation meets felt—specify new Celotex Channel-Seal Roof Insulation!

Each piece has bevels 7/16" high by 1 1/16" wide on all bottom edges. When units are laid on the deck, these bevels form a network of broad, interconnecting channels extending over the entire roof.

"Safety Release" for Trapped Air

As higher pressures build up in some areas of the roof because of rising surface temperatures, they are relieved by air and vapor movement through the channels. This equalizes and reduces pressure—minimizes the danger of blistering or separation of felt and insulation!

Made of a low-density board of high insulating efficiency, Celotex Channel-Seal Roof Insulation comes in a range of thicknesses to meet the specific insulation requirements of each job. It is asphalt coated on both sides and all edges, for extra moisture protection in storage and on the job.

Low in Cost

Light and easy to handle, yet remarkably rigid and tough, Channel-Seal is low in both initial and applied cost. Resists damage from job handling. Quick, easy to apply. Smooth surface assures positive bond to both roof deck and roofing felt.

Moreover, it is the only roof insulation made of tougher, stronger, long Louisiana cane fibres—and protected by the patented Ferox® Process from dry rot and termite attack. Write now for full data on Channel-Seal and other types of job-proved Celotex Roof Insulation. The Celotex Corporation, Dept. PA-9-4, 120 S. LaSalle St., Chicago 3, Ill.

For a Better Roof...Specify Genuine **CELOTEX**

REG. U. S. PAT. OFF.

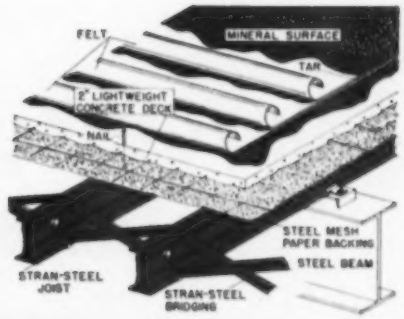
ROOF INSULATION

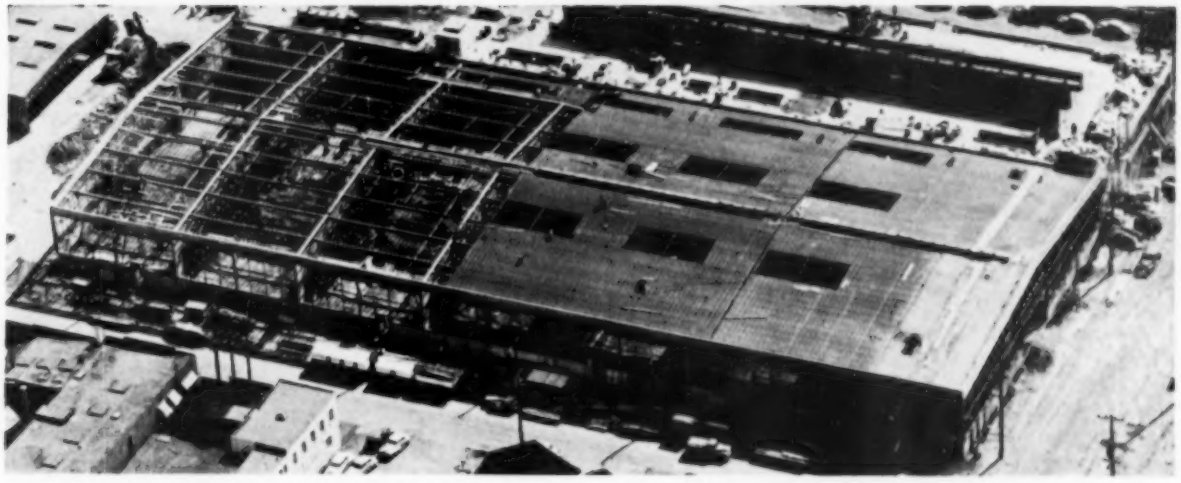
THE CELOTEX CORPORATION, 120 S. LA SALLE STREET • CHICAGO 3, ILLINOIS

Reduce Roof Weight

with Nailable Stran-Steel® Purlins

for pitched or flat roofs





40 per cent reduction in roof weight of San Francisco's Pacific Greyhound Terminal was possible by using Stran-Steel Purlins and lightweight concrete deck.

The building covers seven acres and makes use of nailable Stran-Steel studs, joists and purlins throughout. Designers: Skidmore, Owings and Merrill.

See pages 102-103 for complete story of Pacific Greyhound Terminal

LIGHTWEIGHT: Easy to handle and place.

NAILABLE: Special groove deforms and clinches nails in a grip of steel. Use ordinary carpenter's tools. Saves field costs of clips and attachments.

ECONOMICAL: Easily and quickly erected by welding or sheet metal screws. Use of Stran-Steel members speeds completion by providing factory-punched clearance holes for plumber's pipe and electrician's conduit. Entire building can be framed and closed in without costly interruptions.

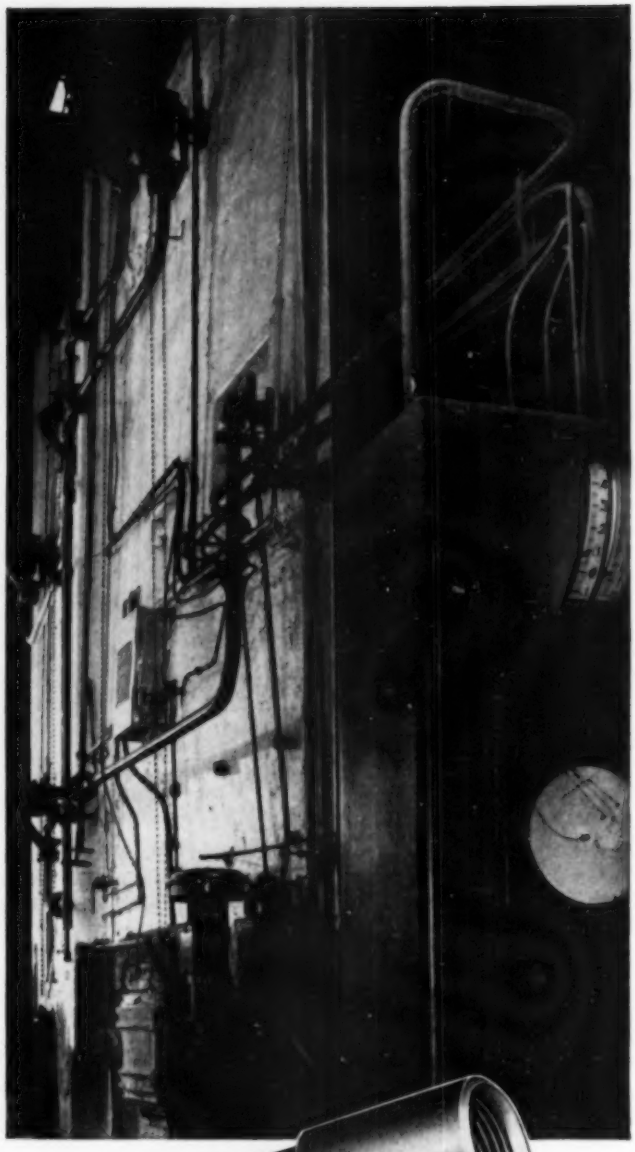
VERSATILE: Stran-Steel framing comes in standard depths, gauges and lengths. Can be used with all types of decking collaterals.

AVAILABLE: On-the-spot distributors and dealers in all major building centers.

FREE—Write for detailed information about Stran-Steel Framing and its application to all types of buildings. (See your Sweet's Catalog Insert.)

GREAT LAKES STEEL CORPORATION
Stran-Steel Division Ecorse, Detroit 29, Michigan
NATIONAL STEEL CORPORATION

This YOLOY pipe has lasted 6 times longer

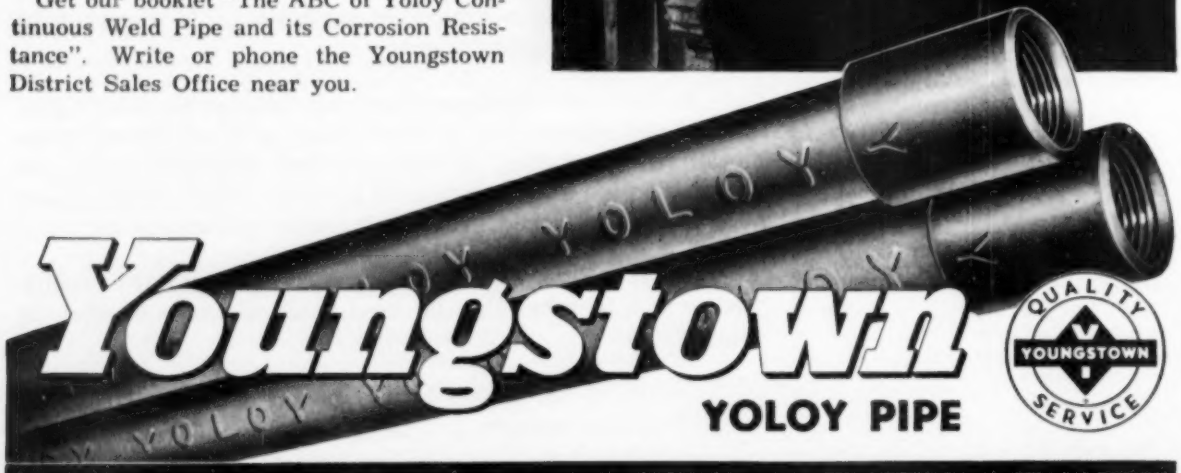


The pipe shown in the photograph of this large boiler carries steam for the "soot" and "fly ash" blower system in an Ohio electric plant. The service is so severe that regular carbon steel pipe had to be replaced as often as 60 days.

A solution for this corrosion problem was obtained by installing Yoloy pipe. Now, twelve months later, the Yoloy pipe is still in service—hasn't developed a single leak. It has lasted six times longer, and looks good for many months more.

Yoloy Continuous Weld Pipe is made from the same nickel-copper steel composition that has proved so successful in the oil, mining, railroad, chemical, trucking and other industries where resistance to corrosion and abrasion is of prime importance. It is now available in pipe sizes, from ½" to 4".

Get our booklet "The ABC of Yoloy Continuous Weld Pipe and its Corrosion Resistance". Write or phone the Youngstown District Sales Office near you.



Youngstown

YOLOY PIPE

QUALITY YOUNGSTOWN SERVICE

THE YOUNGSTOWN SHEET AND TUBE COMPANY *Manufacturers of Carbon, Alloy and Yoloy Steel*

General Offices: Youngstown, Ohio - District Sales Offices in Principal Cities

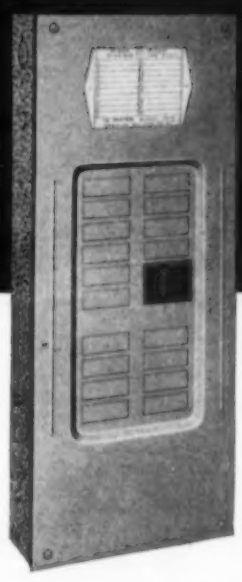
SHEETS - STRIP - PLATES - STANDARD PIPE - LINE PIPE - OIL COUNTRY TUBULAR GOODS - CONDUIT AND EMT - MECHANICAL TUBING - COLD FINISHED BARS - HOT ROLLED BARS - BAR SHAPES - WIRE - HOT ROLLED RODS - COKE TIN PLATE - ELECTROLYTIC TIN PLATE - RAILROAD TRACK SPIKES

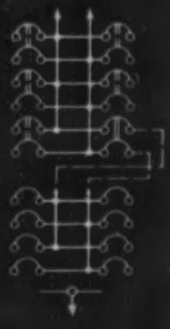
the answer to increased residential electric service demands

NEW FA SPLIT-BUS

circuit breaker type

SERVICE EQUIPMENT





Illustrated ... are both the 100 and 200 amp. units

Specify these new FA "Enclosed Panel Base Assembly" type units for all residential buildings you design, whether new or modernized.

Approved by the Underwriters' Laboratories, Inc., for label service, these units effectively solve the problem of expanding residential power demands.

They provide capacity for electric ranges, water heaters, dryers, air conditioning, etc., and sub-feeder circuit to an additional center of distribution.

The new units have 100 or 200 amp. feeder capacity for single phase, solid neutral service. Each is furnished with one service connection having a double pole 50 amp. circuit breaker with wire connection to the lighting and appliance branch circuit section.

Another big feature is that the units, together with a stock of individually-packaged FA T-M and QP Thermal-Magnetic Circuit Breakers are available from FA distributor's stocks for quick and easy assembly on the job. So be sure to include these units in all future residential type of construction.

For further information, contact your nearest FA distributor or FA representative listed in Sweet's Architectural and Builder file.

SPECIFIC DATA ON SPLIT-BUS SERVICE EQUIPMENT

Catalog No.	Amp. main capacity 3-wire single phase	Max. No. Branches DP	Max. No. Branches SP	Size
FA SE4DPL100-10SPL50	100	3	10	9"x18"x3⅜"
FA SE60PL200-8SPL50..	200	5	8	9"x24"x3⅜"

All circuit breakers are thermal-magnetic, quick make and quick break. Capacities, 10 to 30 amps. are FA T-M and 40 and 50 amps. are FA QP. Adjoining single pole branches can be fitted with handle extensions for double pole individual trip operation.

Frank Adam Electric Co.

BOX 357, MAIN P. O. • ST. LOUIS, MO.

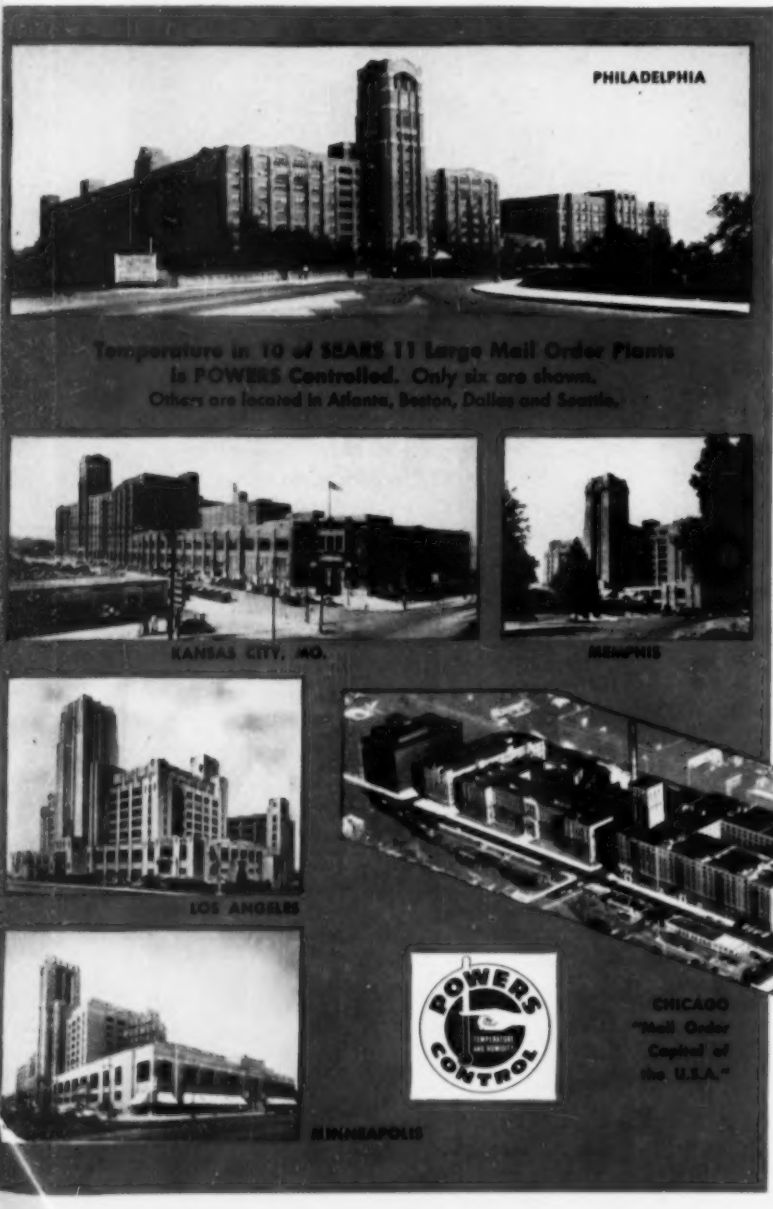
Makers of: busduct • panelboards • switchboards • service equipment • safety switches • load centers • Quikheter

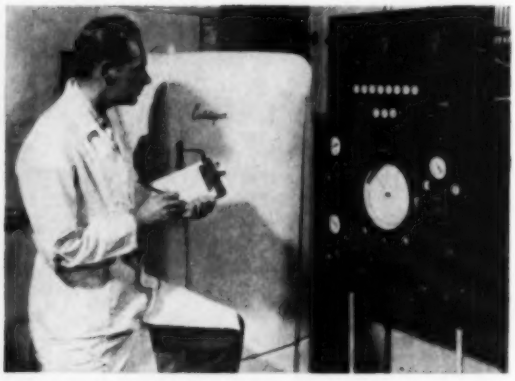
WONDERFUL LIFELIKE MOVING PICTURES
WITH THE
BIOPTICON
A TWENTIETH CENTURY ENTERTAINER THAT BRINGS TO YOUR OWN PARLOR THESE
MARVELOUS ANIMATED PICTURES
There's Money in the Show Business, Boys
GIVING THE SHOW
MOTION PICTURE ENTERTAIN
IN YOUR OWN HOME.
$4.95 BUYS THIS No. 1 BIOPTICON
A MOTION PICTURE OUTFIT.
$4.95 IS THE LOWEST PRICE
POWERFUL ACETYLENE LIGHT.
MONEY IN YOUR POCKET
THE BIOPTICON

From SEARS 1906 CATALOG

"THE WORLD'S LARGEST DEPARTMENT STORE"

Since 1906 Sears, Roebuck and Co.


PHILADELPHIA
Temperature in 10 of SEARS 11 Large Mail Order Plants is POWERS Controlled. Only six are shown.
Others are located in Atlanta, Boston, Dallas and Seattle.
KANSAS CITY, MO.
MEMPHIS
LOS ANGELES
MINNEAPOLIS
POWERS CONTROL
CHICAGO
"Mail Order Capital of the U.S.A."



SEARS "COLDSPOT" REFRIGERATORS

Are Tested in their Modern Laboratories
Regulated by POWERS Controls

"Satisfaction or Your Money Back"— Sears famous guarantee, is one of the reasons for their phenomenal growth and success. They were one of the first to establish testing laboratories to carefully check merchandise.

Photo above shows one of 4 Powers Temperature and Humidity control panels regulating 4 air conditioned rooms of varying size and temperature range for testing the following products: domestic refrigerators (ice and mechanical), freezer chests, milk coolers, walk in coolers, room coolers —**and many other of the 110,000 items sold by Sears.**

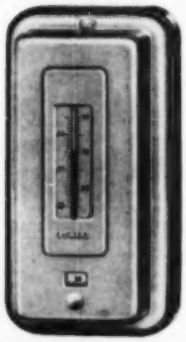
HEDRICH-BLESSING PHOTO
Typical Modern
AIR-CONDITIONED SEARS RETAIL STORE
at Harlem and North Ave., Chicago
Architects: CARR & WRIGHT, INC. • Consulting Engineer: NORMAN E. BUETER
Contractors: MEHRING & HANSON CO. • THE HAINES CO.

This and Over 50 Other SEARS Stores from Coast to Coast are POWERS Controlled

has used

POWERS PNEUMATIC *Control Systems*

In Many of its Prominent Buildings



Powers Room Type Thermostat pneumatically regulates heating and air conditioning systems. Outstanding for accuracy and dependability.

After 40 to 47 Years of Service in Sears Chicago Administration and Merchandise buildings, Powers pneumatic systems of temperature control are still in operation.

Fuel savings and greater comfort obtained here by the prevention of OVER-heating have paid a profitable return on the investment in Powers control. With today's higher fuel costs savings are larger than ever before.

When you select a temperature control system, consider Powers. Users report lower maintenance cost and 30 to 50 years of dependable service.

THE POWERS REGULATOR CO.

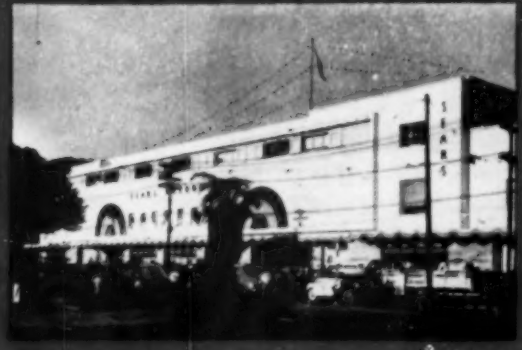
Skokie, Ill. • Offices in Over 50 Cities in the U.S.A., Canada and Mexico

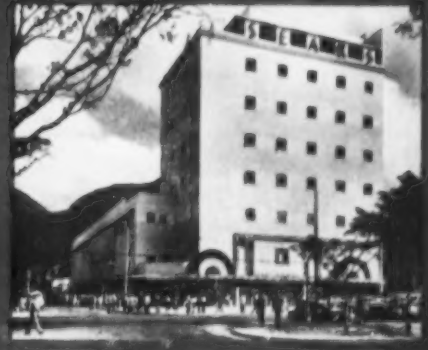
OVER 60 YEARS OF AUTOMATIC TEMPERATURE CONTROL

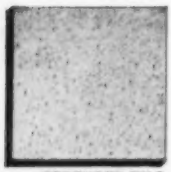
(b42)

Mail Order Plants SIMPSON-SEARS LTD., Canada—Also Regulated by POWERS

POWERS Controlled SEARS Stores in SAO PAULO, BRAZIL • BARRANQUILLA, COLOMBIA • RIO DE JANEIRO, BRAZIL





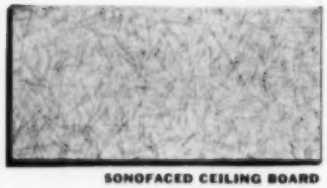


TEXTURED TILE

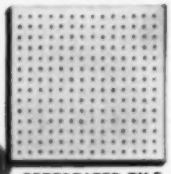
SONOFACED TILE

TEXTURED CEILING BOARD

STRIA TILE



SONOFACED CEILING BOARD



PERFORATED TILE

To satisfy the school board all 6 ways

1 ACOUSTICAL VALUE. High noise reduction coefficient—up to .90—equal or superior to any material.

2 FIRE-SAFETY. Easily meet all safety codes. Carry the Underwriters' Laboratories label service.

3 BEAUTY. The most complete fire-safe line of decorative textures, patterns and colors. Light reflection in many cases over 80%.

4 PERMANENCE. Will not warp, buckle, expand or contract under varying temperatures and humidity. Odor-proof, rot-proof, sanitary.

5 MAINTENANCE. Easily cleaned by standard maintenance methods. May be sprayed or brush-painted.

6 LOW COST. Actually the *lowest* cost fire-safe ceilings available. Lightweight, easy to install and maintain. Provide added thermal insulation.

RECOMMEND FIBERGLAS* ACOUSTICAL CEILINGS!

OWENS-CORNING FIBERGLAS

SOUND CONTROL PRODUCTS

- Textured, Perforated, Sonofaced*, Stria* Acoustical Tile
- Textured, Sonofaced Ceiling Board • Noise-Stop* Baffles

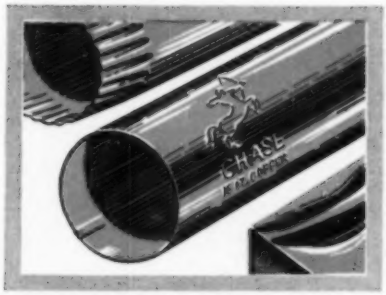
*T. M. Reg. O-CF Corp.

OWENS-CORNING FIBERGLAS CORPORATION
DEPT. 63-I, TOLEDO 1, OHIO

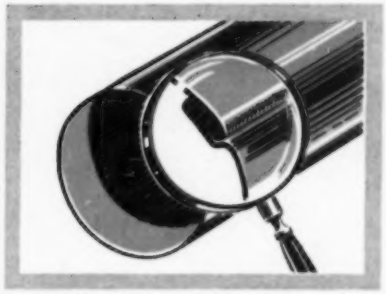
Chase®

gives you 7 reasons why copper means a better home!

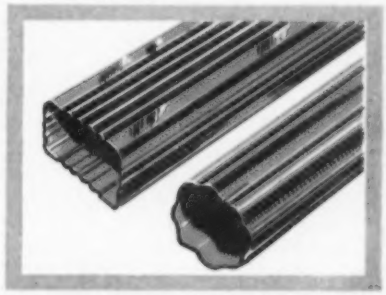
It won't rust and resists corrosion—**Copper's** resistance to the elements is traditional—even in areas where atmospheric conditions destroy other metals. Its performance is proved over centuries of experience.



It's full weight—Look for the die-stamped Chase Trade Mark and Weight Stamp—your assurance that Chase **Copper** Roofing Products have stability and permanence.



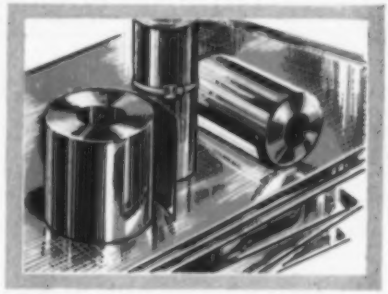
Seams are adequate—Chase **Copper** Leaders are formed from full-width strips, to assure strong, expansion-proof seams.



Corrugations are deep and generous—Chase **Copper** Downspouts have full-depth corrugations, ample for temperature ranges in *any* climate.

It can be soldered . . . with ease and economy—Long-lasting, water-tight joints are assured when standard soldering techniques are applied to Chase **Copper** Roofing Products.

It's architecturally harmonious—Modern or traditional design both benefit from **Copper's** rich appearance—a metal protected and beautified by nature itself.



It's economical—The ratio of *first-cost* to *years of service* is at a bare minimum, when **Copper** is used. And, the relationship of copper to overall building costs is as reasonable as it ever was in the past.

Chase

BRASS & COPPER CO.

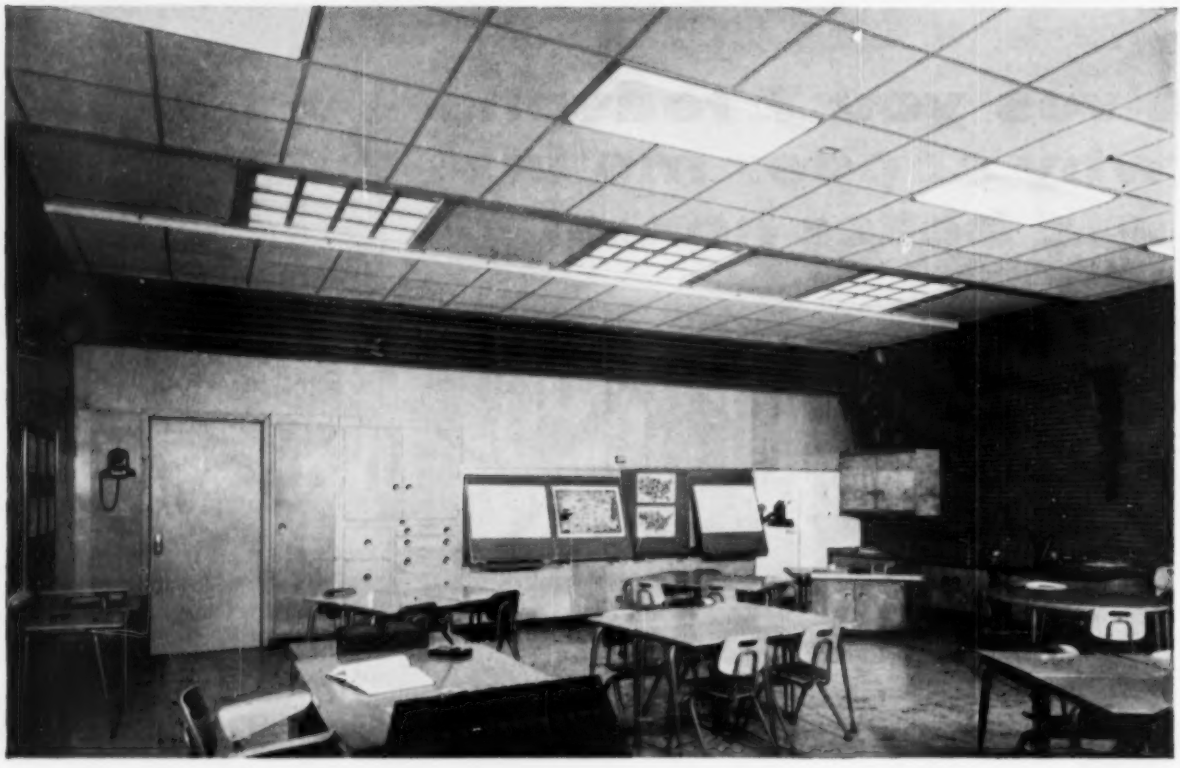
WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

For maximum life and performance, install Chase full weight copper leaders, gutters and roofing accessories.

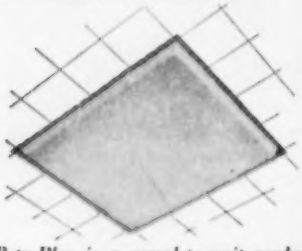
The Nation's Headquarters for Brass & Copper

Albany†	Chicago	Denver†	Kansas City, Mo.	Newark	Pittsburgh	San Francisco
Atlanta	Cincinnati	Detroit	Los Angeles	New Orleans	Providence	Seattle
Baltimore	Cleveland	Houston	Milwaukee	New York	Rochester†	Waterbury
Boston	Dallas	Indianapolis	Minneapolis	Philadelphia	St. Louis	(†sales office only)

Wakefield Beta-Plex Luminaires Ideal for Lower Classroom Ceilings



Note that Wakefield Beta-Plex units were chosen for the low ceilinged Research Laboratory Classroom at the University of Michigan.



Beta-Plex is a complete unit ready for recess mounting in a suspended ceiling. Ballasts and lampholders are contained in a metal housing. A Touch-Latch releases and closes the Rigid-Arch Plexiglas diffuser, making the interior of a Beta-Plex unit readily accessible. Four sizes: 2' x 2', 2' x 4', 1' x 4' and 4' x 4'.

Need for recessed unit met by Beta-Plex; diffuser extends only 1½" below ceiling line

Conventional suspended fixtures cannot be used on the new 8 to 10 foot ceilings. Required is a luminaire like the Wakefield Beta-Plex, which mounts practically flush with the ceiling. Beta-Plex has a Plexiglas diffuser which distributes light evenly, without direct glare. And when unlit, because it has a special non-specular mat finish, the diffuser does not reflect an image of the brightly daylighted window.

School officials and architects planning schools with low classroom ceilings are invited to send for an illustrated folder on the Wakefield Beta-Plex luminaire. The F. W. Wakefield Brass Company, Vermilion, Ohio. In Canada: Wakefield Lighting Limited, London, Ontario.

Wakefield Over-ALL Lighting

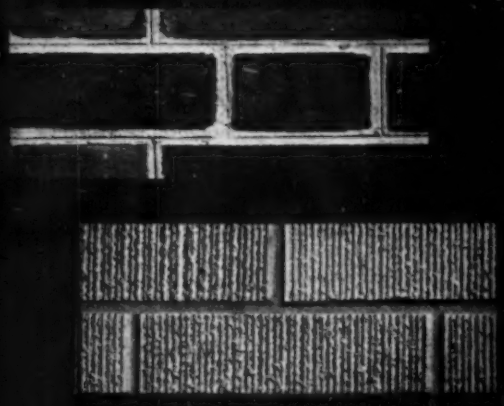
BRICK and TILE

...your most flexible, economical medium for

texture

and

color



More than any other single building material, brick and tile help the architect to achieve that perfect blend of structure, form and finish that marks a good building. Because brick and tile offer such variety of color and texture, the designer's opportunity for expression is almost unlimited. Brick and tile also mean true economy — low initial costs plus the long-range savings of permanence and freedom from maintenance.

SCPI
STRUCTURAL CLAY PRODUCTS INSTITUTE

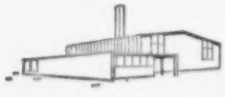
STRUCTURAL CLAY PRODUCTS INSTITUTE
1520 18th Street, N. W., Washington 6, D. C.

AMERICA'S MOST VERSATILE BUILDING MATERIAL

Roof sheathing of West Coast lumber—the building material with an outstanding record of performance—is strong, rigid and long-lasting. It is easy to handle, easy to apply, offers *real* nail-holding power. West Coast lumber is time-tested in conventional construction. And, as always, it remains the natural choice of the day's most creative designers.

For dependable lumber, specify the West Coast species... Douglas Fir, West Coast Hemlock, Western Red Cedar and Sitka Spruce.

Send for folder describing free literature available for your reference files.
West Coast Lumbermen's Assn.,
1410 S. W. Morrison St., Portland 5, Oregon



WEST COAST LUMBER

Douglas Fir • West Coast Hemlock
Western Red Cedar • Sitka Spruce

whatever the job, consider WOOD FIRST!

Mississippi Product is "Pick of Pack" at New Plant

The striking exterior of the new, Heinz vinegar plant, Pittsburgh, Pa., executed in a shimmering sweep of Coolite, Heat Absorbing and Glare Reducing glass, has already been acclaimed "a brilliantly incisive piece of architecture." The beauty and drama of this modern concept is immediately apparent... fit perfectly the Heinz tradition of highest quality materials and workmanship. The advantages of Coolite to the plant interior are as important as exterior beauty... employes work comfortably in areas completely daylighted with Coolite-conditioned light... light without harmful glare or excessive solar heat.

For Coolite filters out unwanted factors in "raw sunlight"... helps keep plant interiors cooler, brighter, more comfortable... reduces necessity for makeshift screens or painting. Employees see better, feel better, work better in interiors daylighted by Coolite, Heat Absorbing and Glare Reducing glass.

Coolite can make the plants of your clients better places to work in... boost efficiency... reduce rejects. In your plans for new construction or modernization, specify Coolite. Available from distributors of quality glass everywhere.

MISSISSIPPI *Glass* COMPANY

88 ANGELICA ST. SAINT LOUIS 7, MO.

NEW YORK • CHICAGO • FULLERTON, CALIF.

Coolite Glass combines beauty and utility in an exciting new variety of industrial architecture for H. J. Heinz Co. Ezra Stoller Photos.

●

Skidmore, Owings & Merrill, Architects and Engineers; Gordon Bunshaft, Partner In Charge. Jaros, Baum & Bolles, Mechanical Engineers. George A. Fuller, General Contractor and Lloyd B. Knutsen, Project Manager for H. J. Heinz Co.

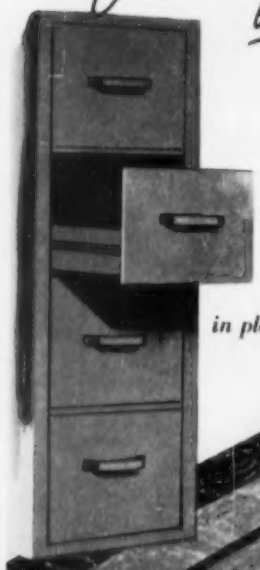
Write today for new catalog, "Coolite, Heat Absorbing Glare Reducing Glass." Samples on request.

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

for Architects only

B.F.Goodrich
Koroseal
FLOOR TILE

Assures long-term client satisfaction



in places of business

Specify B. F. Goodrich Koroseal Vinyl Floor Tile for long-lasting beauty, service and economy . . . and for complete client satisfaction. It is the *one* floor tile with these 4 important features:

Never Needs Waxing — Minimum care and lower maintenance costs.

Defies Destruction — Super-resistant to oils, fats, greases . . . even cleaning fluids and alkalies.

Anti-Slip Surface — Safe to walk on, always.

Maximum Wear — It's the same material from top to bottom — no coating, no lamination.

These features — all combined in this one floor tile — have been developed and perfected by B. F. Goodrich, the originators of flexible vinyl plastics.

and homes

For B. F. Goodrich aids for architects, write: *Dept. P9, B. F. Goodrich Co., Flooring Division, Watertown 72, Mass.*

SAN FRANCISCO'S NEW
INTERNATIONAL AIRPORT

another MONUMENT TO AIR TRAVEL equipped with Schlage Locks

ARCHITECT
W. P. DAY

BUILDING CONTRACTOR
CLINTON CONSTRUCTION COMPANY

HARDWARE SUPPLIER
E. M. HUNDLEY HARDWARE CO

LOCKS
SCHLAGE SATURN DESIGN

Each year over 115,000 airliners are expected to land and depart from the 30,000 feet of runways of San Francisco's new International Airport. The terminal building, planned to accommodate 5 million passengers yearly, is a veritable showcase of modern construction and convenience. The building boasts its own post office, luxury restaurant, children's nurseries, and working areas for 9,000 employees. An unusual feature is a photo-electric control that automatically opens and closes blinds keeping sunlight constant at all times.

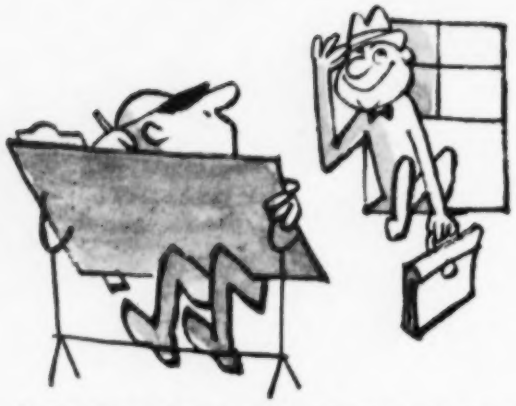
The Schlage Locks installed on all doors reflect the detailed planning that has gone into this structure. Selected in durable Luster Sealed Aluminum finish, these fine locks will resist the effects of constant exposure to corrosive salt laden winds from near-by San Francisco Bay. These precision-made Schlage Locks will play an important part in reducing maintenance costs in this latest monument to air travel.

®SCHLAGE©

THE WORLD'S MOST IMITATED LOCK

SCHLAGE LOCK COMPANY
SAN FRANCISCO NEW YORK VANCOUVER, B.C.

WHEN THE CARRIER



1. THINKING ABOUT AIR CONDITIONING? Before you start work on your next house, wouldn't you like to talk to a representative from Carrier? He might have some suggestions about the air conditioning which would help.

2. DRAW HIM OUT. After all, Carrier developed the Weathermaker Home idea of a house planned around air conditioning. Too, Carrier sponsored the Weathermaker Home Competition. So the man is a bit of an expert.

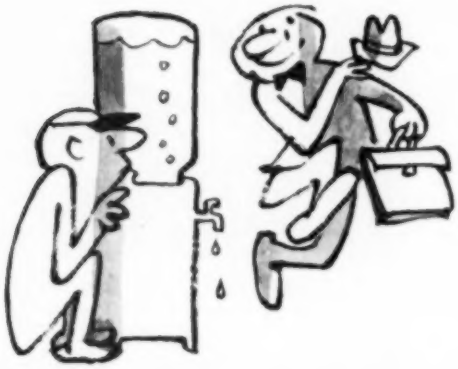
5. FITS ANYWHERE. He'll tell you the Weathermaker is only 5 feet high and 3 feet square. It fits in basement, closet or utility room. It burns gas or oil, cools electrically. And it is completely serviceable from the front.

6. MAKES THE IMPOSSIBLE POSSIBLE. But his pet subject is the Carrier Weathermaker Home idea. This revolutionary concept permits you to design features your houses couldn't have without air conditioning.

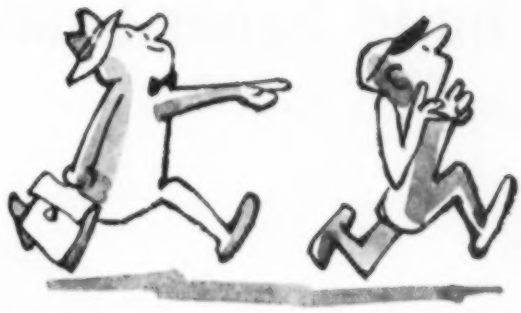
9. DESIGN FROM THE INSIDE OUT. When you design a Weathermaker Home, he will say, you start with comfortable space and no restrictions. So you can concentrate on designing a house that is exactly suited to your client.

10. USE TREES TO KEEP THE HEAT OUT. It's part of the Weathermaker Home idea that wise planning can reduce the heat load and thus the cost of the air conditioning. Shade trees, overhangs, and light-colored roofs all help.

SALESMAN CALLS



3. NEEDS NO WATER. If you're dubious about operating costs, for example, he'll be quick to tell you that the Carrier Weathermaker is available with an air-cooled condenser for areas where water is scarce or costly.



4. FASTEST SELLING. He'll probably point out that the Weathermaker is the fastest selling home air conditioner in the country. Builders from Boston to Dallas have chosen it for successful home developments.

7. BIG WINDOWS. In a Weathermaker Home, he'll probably say, you can group your windows for a feeling of space, better light, or a view. In the bedrooms, you can place horizontal windows high on the wall for privacy.

8. USE SOLID WALLS. He'll remind you that you don't need windows on every wall in a Weathermaker Home. You can use those walls for built-in storage, to allow more attractive furniture arrangement, to keep the sun out.

11. CAN WE HELP? When you start with a Carrier Weathermaker you are free to design a new kind of home. You can give your client more comfort, more convenience, more house for the money. We'll help in any way.

Carrier

air conditioning • refrigeration
industrial heating

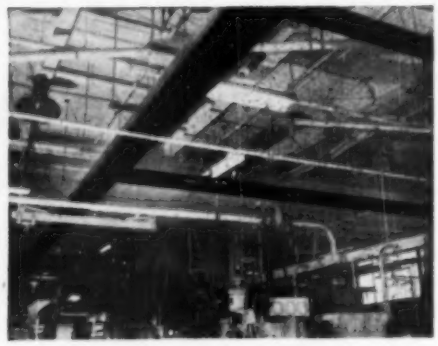
CARRIER CORPORATION, 320 S. Geddes Street, Syracuse, New York
You've got me. Tell me all about the Carrier Weathermaker Home.

Name _____

Street _____

City _____ *State* _____

BULLDOG ALUMINUM BUStribution® DUCT helps North American build Super-Sabres



1600-amp. LO-X BUStribution serves as main feeder to welding department to minimize voltage drop during welds.

North American F-100 Super-Sabre

600-amp. Plug-In BUStribution, with tap-off provisions each 10", provides 100% coverage of production area with 50-foot runs.

To keep their famous Super-Sabre Jets rolling smoothly off the line, North American Aircraft needed a dependable, flexible power distribution system. That's why, in two installations alone, they installed more than half-a-mile of BullDog Aluminum BUStribution Duct.

The high bay construction, and the obstacles presented by girders and pipes in the North American plant, were a natural for the use of lightweight aluminum bus duct. The weight saving in each 10′ duct section greatly eased the strain of the extra handling required in the installation job. Less dead weight on building superstructures, too.

These savings in installation costs — in addition to lower first cost — are prime reasons for the widespread use of BullDog Aluminum Conductors in plants throughout the country.

Aluminum BUStribution Duct features in its design the same quality and dependability that have gained BullDog world-wide reputation as a pioneer of bus bar distribution systems. It is completely interchangeable with other BullDog BUStribution systems and is listed by Underwriters' Laboratories, Inc. For complete information, consult your local BullDog Field Engineer. Or, write: BullDog Electric Products Company, Dept. PA-64, Detroit 32, Michigan. ©BEPCO

Export Division:
13 E. 40th Street
New York 16, New York

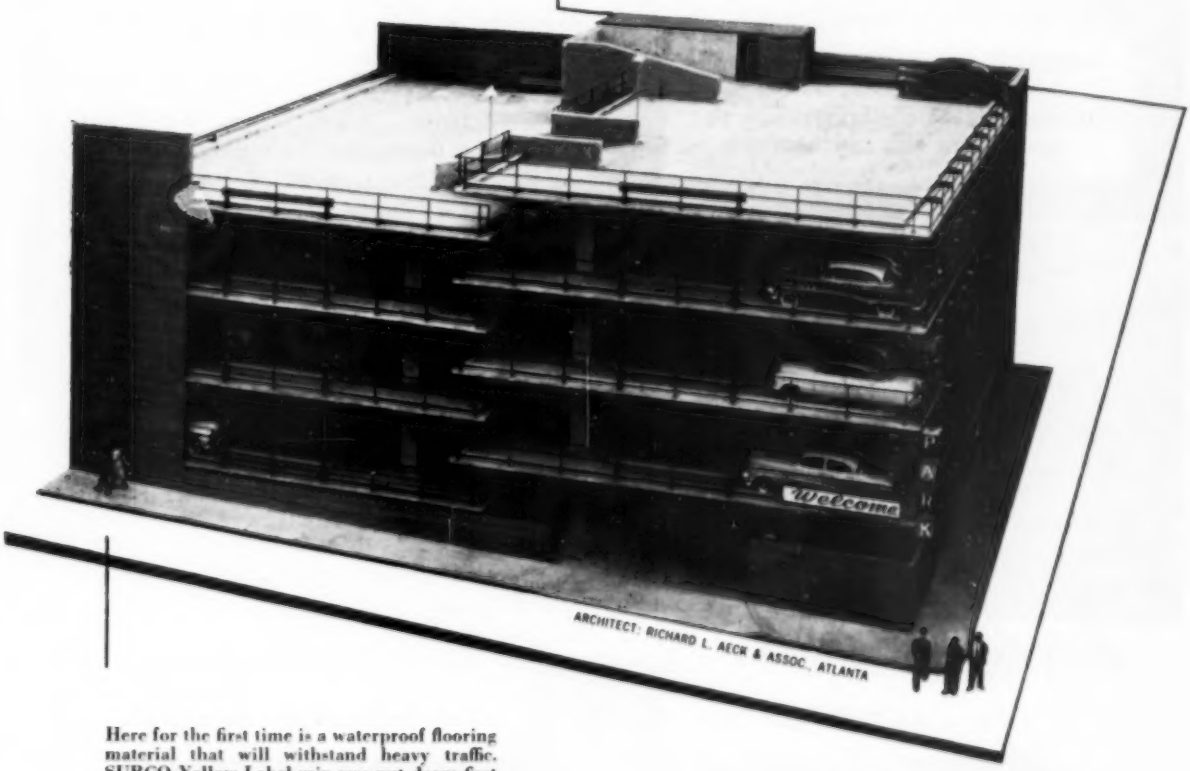
In Canada:
BullDog Electric Products Co. (Canada) Ltd.
80 Clayson Road, Toronto 15, Ontario

BULLDOG
ELECTRIC PRODUCTS COMPANY

SURCO

Tops for Award-Winning Parking Deck

Williams Parking Deck in Atlanta was cited as an outstanding example of modern, functional design in *Progressive Architecture's* 1953 Awards Judgment. Built at a cost of $3.50 per square foot, the parking deck has a 210 car capacity. SURCO'S versatility as a flooring material made it a natural choice for surfacing the top deck. As a waterproof, roofing material SURCO provided the additional qualities of exceptional durability, traction, and high resistance to oil, gasoline and grease.

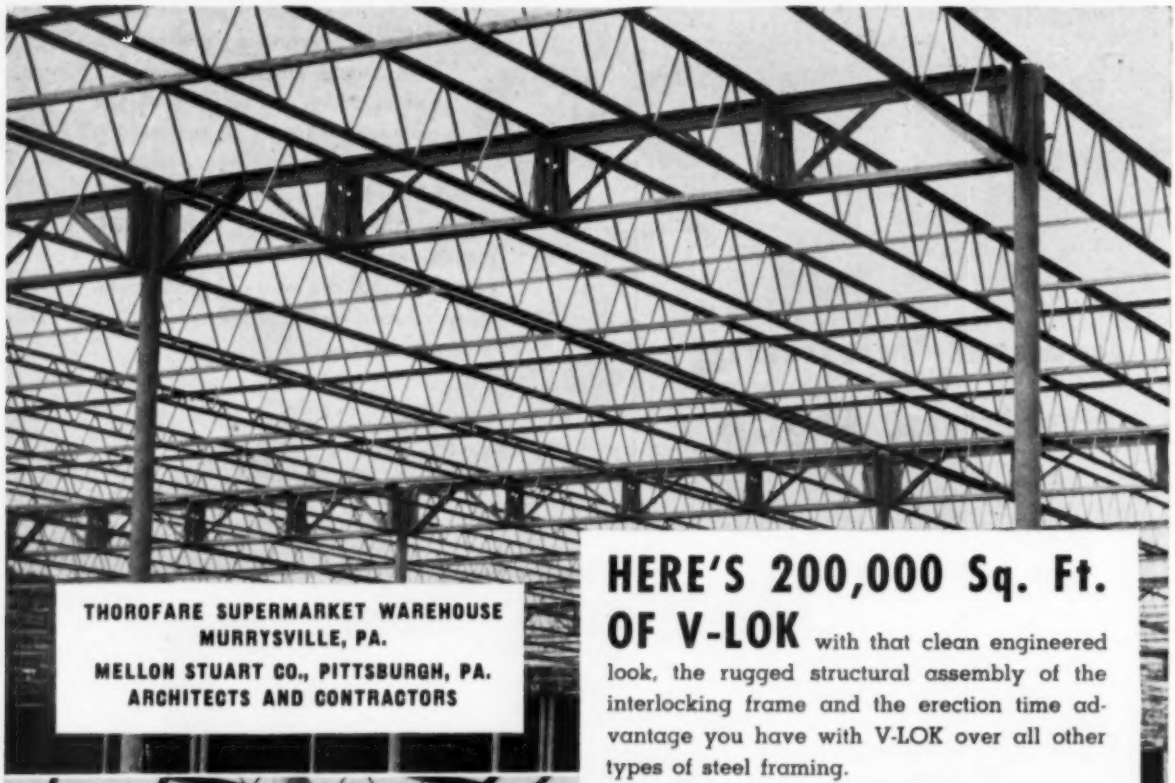


Here for the first time is a waterproof flooring material that will withstand heavy traffic. SURCO Yellow Label mix was put down first to waterproof the roof. Then the entire top deck was surfaced with SURCO Red Label mix for durability and resistance to petroleum products.

● *Sweet's Architectural, Industrial Construction, and Plant Engineering Files contain complete information on SURCO products.*

SURCO **SURFACE COATINGS, Inc.** 110 Pear Street, S.E., Atlanta, Georgia

THIS IS WHY - V-LOK IS ITS OWN BEST SALESMAN TO ENGINEERS



THOROFARE SUPERMARKET WAREHOUSE
MURRYSVILLE, PA.
MELLON STUART CO., PITTSBURGH, PA.
ARCHITECTS AND CONTRACTORS

COLUMN DETAIL IN TWO-STORY AREA

HERE'S 200,000 Sq. Ft. OF V-LOK

with that clean engineered look, the rugged structural assembly of the interlocking frame and the erection time advantage you have with V-LOK over all other types of steel framing.

This grocery warehouse—400 by 500 feet—has a sizeable two-story office area, a canopied loading dock and a 16-foot clear height throughout the balance of the building.

V-LOK is structurally adaptable to a wide variety of load, span and design needs. In school work, V-LOK reduces erection time to days, advancing finishing operations and occupancy date.

A coast-to-coast experience record awaits your V-LOK inquiry.

ORIGINATORS OF THE *OPEN WEB STEEL JOIST*

STANDARDIZED STEEL
V BAR JOISTS • LONGSPANS

BUILDING PRODUCTS
STEEL TRUSSES • STEEL DECK

MACOMBER INCORPORATED

CANTON 1, OHIO

• ENGINEERING • FABRICATING AND ERECTING •

Roddiscraft announces a new wood-faced fire door

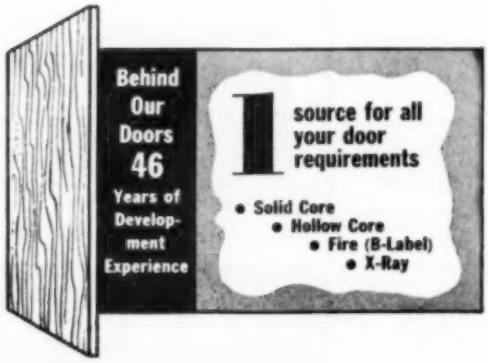
. . . approved by Underwriters Laboratories

Lightweight Roddiscraft B-Label Fire Doors are available in all wood species to match any flush doors you specify

Now architects and engineers can specify all flush doors from one source — Roddiscraft. With the development of the new B-Label Fire Door, Roddiscraft now offers a complete line of flush doors for all types of applications. For openings in vertical shafts, where a fire barrier is required, specify the new B-Label Fire Door. It has been approved by the Underwriters Laboratories and gives a minimum of at least one-hour fire protection.

The door is currently being produced in all available wood species — in both standard and specified sizes. Widths up to 3½ feet and heights up to 7 feet meet almost all commercial, industrial or institutional requirements. These include stairway and room entrances, shaft and fire escape openings. You'll find wide residential application, too. There is a growing trend in the use of fire doors for entrances to bedrooms, basements and attached garages.

Check the advantages of the new Roddiscraft B-Label Fire Door listed here. Write for complete specifications or call on your nearest Roddis warehouse for details.


Behind Our Doors 46 Years of Development Experience
1 source for all your door requirements
• Solid Core
• Hollow Core
• Fire (B-Label)
• X-Ray

Only Roddiscraft B-Label Fire Doors give you all these quality features

- Non-combustible core of special asbestos compound.
- Faced on both sides with plywood veneer . . . in all available wood species.
- Available in widths up to 3½ feet . . . heights up to 7 feet.
- 20% lighter than conventional solid core doors for lower shipping costs . . . easier handling.
- Warp-free, low sound transmission, low heat transmission.
- Completely stable core — no chance of rattling. Three sections are assembled with tight tongue-and-groove joint.

Roddiscraft

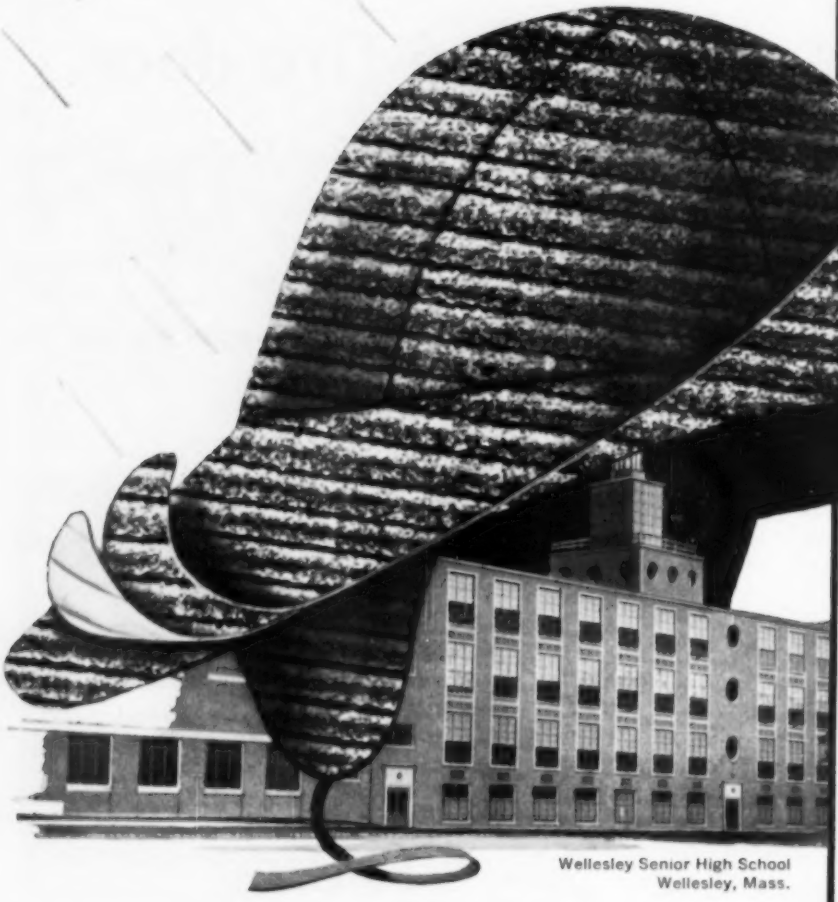
RODDIS PLYWOOD CORPORATION
Marshfield, Wisconsin

warehouses in principal cities

RODDIS PLYWOOD CORPORATION
Marshfield, Wisconsin

Please send me
☐ Specifications of your new B-Label Door
☐ Information on your complete door line

Name .....
Address .....
City ..... State .....



Wellesley Senior High School
Wellesley, Mass.

Still Watertight With **WASCO!**

". . . the exterior masonry walls have been entirely free from leaks and moisture seepage."

This is the report on the Wellesley Senior High School building, erected in 1937 and still completely protected by Wasco Copper-Fabric Flashing.

The first flashing to combine copper and fabric in one material, Wasco Copper-Fabric Flashing has proved to be permanent leak insurance in thousands of installations.

Plan to give your buildings lifetime protection — specify Wasco Copper-Fabric Flashing.

Write for free flashing sample today.

CREDITS: Architects — Perry, Shaw and Hepburn, Kehoe and Dean, Boston, Mass.

See Sweet's Catalog or write.....**WASCO FLASHING COMPANY,**
90 Fawcett St., Cambridge 38, Mass.

FLEXIBLE

Easily shaped by hand to any form or contour. Stays flexible in winter . . . won't soften in summer.

THE PERFECT BOND!

Meets every test! Rough fabric surfaces bond perfectly to mortar . . . provide permanent protection.

TOUGH

Rip-resistant. Can't be scratched or scuffed. Will not crack, chip or dry out. Asphalt-impregnated to prevent electrolysis.

WATERTIGHT JOINTS

Exclusive 5-layer construction permits simple, self-sealing multiple splice. Asphalt mastic seals into a watertight joint.

copper-fabric flashing **WASCO**

Assure you of the most suitable installation for your dimming application.

NON-INTERLOCKING POWERSTAT Dimmers are continuously-adjustable autotransformers . . . ideal for single circuit use — controlling footlights, auditorium lighting and any single room installation. Standard manually-operated (hand lever and knob) and motor-driven assemblies are available in capacities from 1,000 to 30,000 watts. Motor-driven types provide effortless, "finger-tip" operation by "raise-lower" switch or remote positioner controls.

Visit the Superior Electric's Mobile Display when it is in your area.

THE SUPERIOR ELECTRIC COMPANY

4094 Domers Ave., Bristol, Conn.

Manufacturers of: Powerstat Variable Transformers • Stabiline Automatic Voltage Regulators • Voltbox A-C Power Supplies • Powerstat Light Dimming Equipment • Varicell D-C Power Supplies • Superior 5-Way Binding Posts

THE SUPERIOR ELECTRIC COMPANY
4094 Domers Ave., Bristol, Conn.

Please send Bulletin D851N on POWERSTAT Non-Interlocking Light Dimming Equipment.

Name.....

Company Name.....

Company Address.....

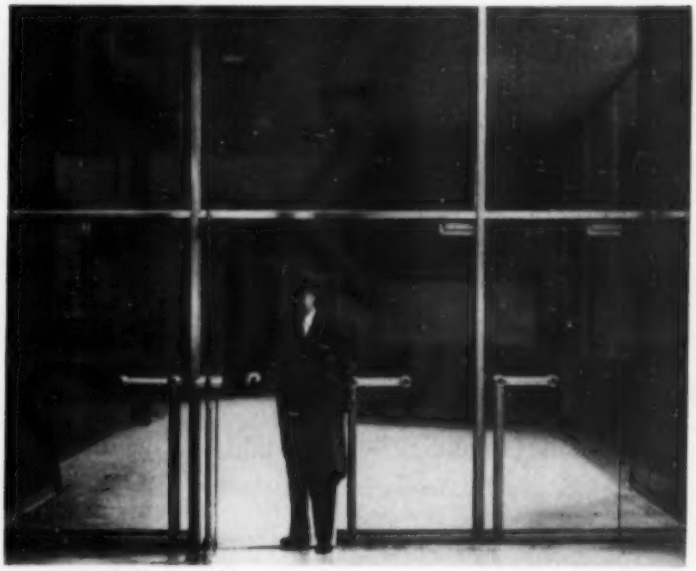
City.....Zone.....State.....

PITTCOMATIC... *"the nation's*

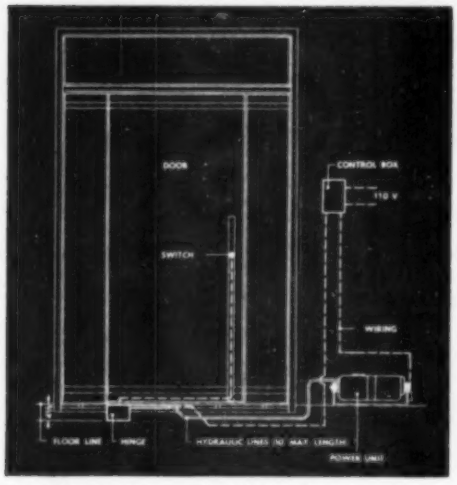
PITTCOMATIC hinges operate the sturdy Herculite Doors which form the entrance to the aluminum-faced skyscraper office building of the Aluminum Company of America at Pittsburgh, Pa. The magic-like operation of the Pittcomatic is controlled by a 10-volt switch, concealed in the door handle. It is so sensitive that the instant the handle is touched, the door starts to open by hydraulic action, smoothly and silently, in either direction. A steady flow of traffic into and out of the building is thus permitted with the utmost efficiency. Each door operates independently, so that the operation of one door in a battery can be discontinued without disrupting the operation of the others. Architects: Harrison and Abramovitz, New York City; Associate Architects: Altenhof and Bown; Mitchell and Ritchey.

finest automatic door opener"

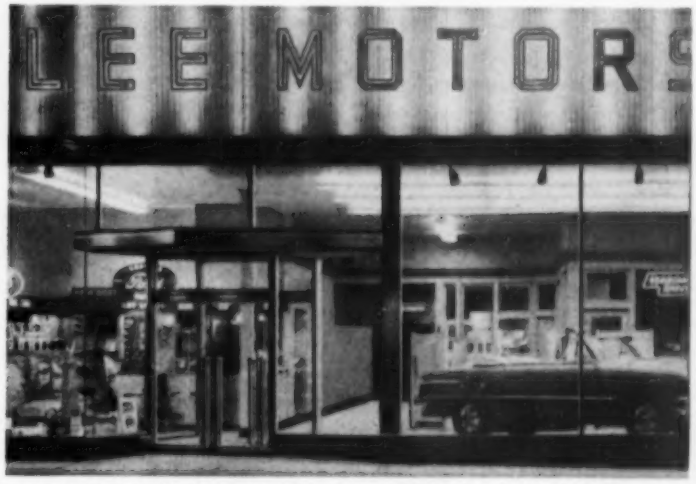
FOR ALL KINDS of industrial and commercial buildings, leading American architects are specifying the Pittcomatic automatic door opener. This building in South Bend, Indiana, is an interesting example. Architects: Schwartz & West, South Bend, Indiana.



BANK EXECUTIVES are "sold" on the Pittcomatic. They state that their customers like the easy response of doors having this automatic opener; that these installations have actually attracted more customers. Architect: Wyatt C. Hedrick, Dallas, Texas.



THE POWER UNIT supplies hydraulic power to the hinge under the door through ⅜" copper lines. The power unit is activated by a 10-volt circuit in the handle which passes through the control box. Oil lines are 3000-lb. test. The action of the door in all respects can be regulated by adjustments provided in the control box and the hinge. No power can build up. It is a safe door.



IN RETAIL STORES, like this automobile showroom in Toledo, Ohio, the Pittcomatic not only brings the practical advantages of its automatic operation, but, with Herculite Doors, adds to the over-all feeling of open-vision, which is such a proven sales stimulator. Architects: Sanzenbacher, Morris & Taylor, Toledo, Ohio.

For complete information on the Pittcomatic, write to Pittsburgh Plate Glass Company, Room 4288, 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

For every home . . . for every fuel . . .

let SPENCER solve your heating problems!

Spencer, leader in quality heating for more than 60 years, offers you over 60 models of boilers and complete heating units . . . a size for every home . . . one for every fuel.

Here, for example, are four models. All are easy to install . . . compact in size . . . economical to operate . . . and available in most sizes with instantaneous hot-water coils.

Spencer complete heating units

offer new beauty . . . new ease of installation

- Fast heating qualities . . . efficiency and economy.
- Easy to install—shipped completely assembled. Just move them into position and hook up.
- Easy to service—special designs permit cleaning without removing jacket or smoke pipe.
- Easily concealed connections.

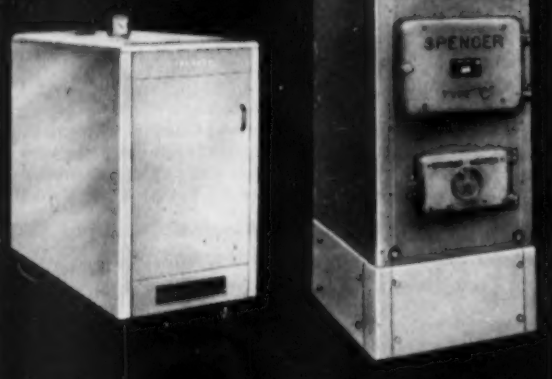
Rancher (gas): AGA-approved, 40,000 to 232,000 BTU output
Suburban (oil): SBI-approved, 510 sq. ft., water, net rating

For gas—
the RANCHER

For oil—
the SUBURBAN

For
all homes
"R" BOILERS

For larger homes
and apartments
"C" BOILERS



Spencer residential boilers

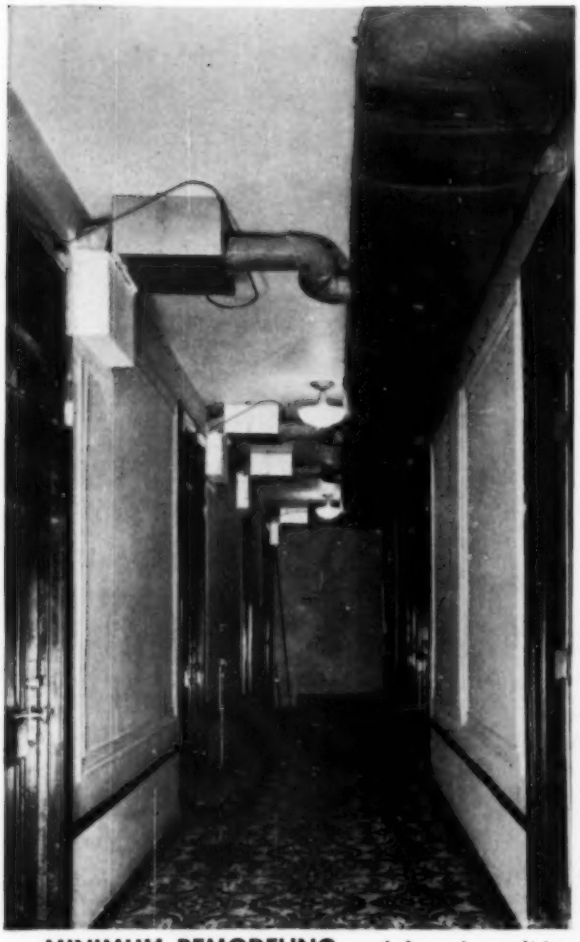
offer high efficiency at low cost

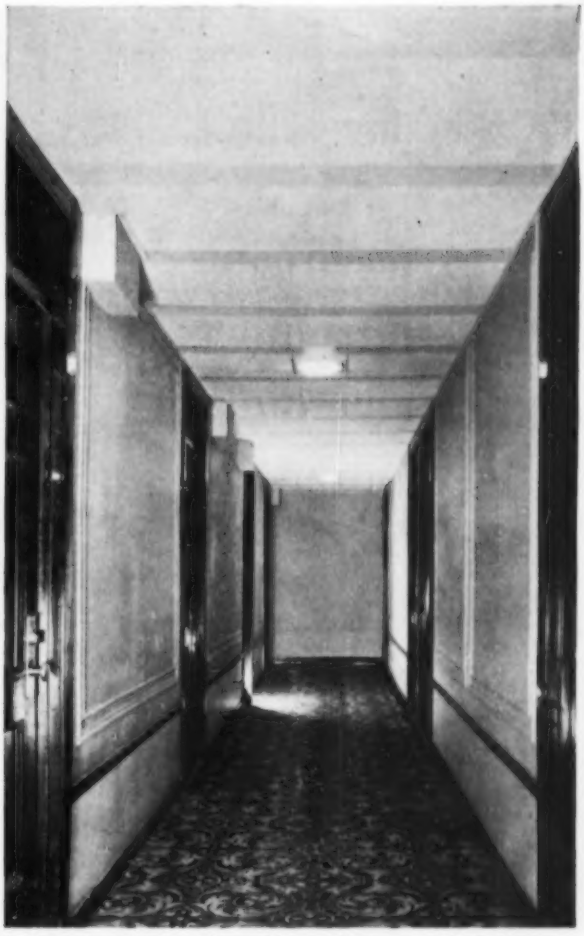
- Two of the most popular boilers on the market.
- Exclusive Spencer peaked fireboxes for more efficient combustion.
- Staggered boiler tubes for quick heat transfer.
- Fire tubes easily accessible for faster cleaning.
- Unique warp-proof door frames.

"R" Boiler: 320 to 1,100 sq. ft., steam, SBI Net Rating
"C" Boiler: 1,100 to 5,000 sq. ft., steam, SBI Net Rating

SPENCER
HEATER
LYCOMING DIVISION
WILLIAMSPORT AVCO PENNSYLVANIA

For information and specifications on Spencer's many lines, write: Spencer Heaters, Dept. PA-94, 652 Oliver Street, Williamsport, Pennsylvania.





MINIMUM REMODELING needed to air condition this 400-room hotel. False ceiling (picture, right) hides small air ducts and high pressure units used in...

Kno-draft High Pressure System

Famous Lincoln Hotel, in Indianapolis, wanted to air condition its rooms. Separate refrigeration units for each floor had to be ruled out. So did individual window units. And space limitations prevented use of the regular sized ducts used for ordinary low-pressure air distribution.

A High Pressure System, designed by Bevington, Taggart and Fowler, consulting engineers, solved the problem. In this system, air is circulated through small ducts at better than 3,000 feet per minute and at 16 times normal pressure. In the take-offs to each room, however, specially designed Kno-Draft high pressure units assure quiet air delivery.

Another Kno-Draft advantage: the amount of air to each room can be varied from *within the room* by a simple wall control.

Does the foregoing spark an idea for one of your present jobs? Connor engineers will gladly help you in any way they can. As a first step, clip and mail the coupon below to Connor Engineering Corporation, Danbury, Connecticut.

CONNOR

see our catalog in ARCHITECTURAL FILE or write for copy

kno·draft®

adjustable air diffusers

CONNOR ENGINEERING CORPORATION
Dept. V-94, Danbury, Connecticut

Please send full information on High Pressure Systems and Kno-Draft High Pressure Diffusers.

Name _____

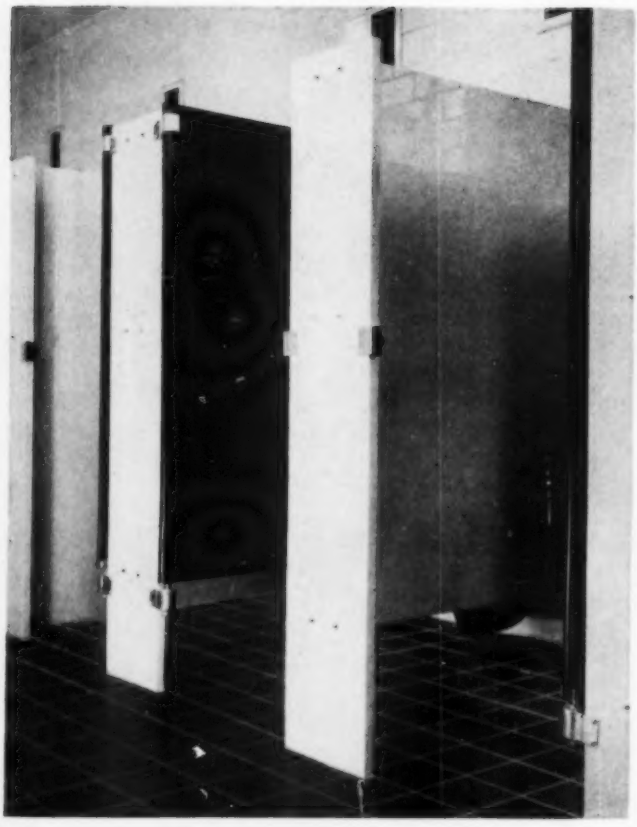
Company _____

Address _____

City _____ **Zone** _____

State _____

Washrooms of another notable building finished in Carrara Glass



Philadelphia General Hospital. This modern hospital, recently completed in Philadelphia, Pennsylvania, was designed by Gilboy and O'Malley, Architects and Engineers, Alfred Clauss, R.A.—Partner, Philadelphia, Pa.

HIGH hospital standards of asepsis and sanitation may begin in the operating, delivery and other specialized treatment rooms, but they don't end there. Hospital administrators insist upon the greatest possible degree of cleanliness throughout the hospital.

And that's one important reason why more and more architects specify Carrara Structural Glass for hospital washrooms. For Carrara Glass is easy to keep clean, shining and sanitary.

Carrara is all glass, with a smooth, homogeneous texture that is highly impervious to the attacks of acids, water, steam, soap, chemicals and cleaning compounds.

Its surface is mechanically ground and polished to an unusually smooth, even surface. And because Carrara is manufactured in large sections, there are fewer joint crevices to catch dust and dirt. Carrara wipes clean readily with a damp cloth, greatly simplifying the maintenance problem.

Additional information on Carrara is available from Pittsburgh Plate Glass Company, Dept. 4317, 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.

Carrara ... the quality structural glass

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

BRIXMENT

Better Mortar for Blocks

STAYS WORKABLE LONGER

To get a good bond between concrete blocks, the bricklayer must shift and adjust each block to its final position, before the mortar has stiffened.

Brixment makes it easier for the bricklayer to do this. Brixment mortar stays plastic longer in the wall because it has high water-retaining capacity, which provides greater resistance to the suction of the block. This gives the bricklayer more time to adjust and shift the block to its final position, while the mortar is still plastic enough to form a good, tight bond.

give old buildings an exciting

NEW LOOK *with*

use any color, or color combination: Pastels, deep colors, white, gray or black.

use any texture: Smooth, floated, stippled, spatter-dash, brushed, combed, tooled, striated, rough trowelled or tapestry.

use any pattern: Natural stucco; simulated stone; wood panelling; or masonry.

use any profile: Plane, curved, fluted, panelled, or corrugated. Combine it with other materials as you please.

use over any surface:
Stucco overcoating may be applied over wood siding, masonry, stone, tile, terra cotta or metal.

for long,

STUCCO

FIRE SAFE •

DURABLE •

MEETS ANY ARCHITECTURAL REQUIREMENT •

LONG LIFE •

LOW COST •

LITTLE MAINTENANCE •

Stucco gives you complete freedom of design when you modernize old buildings: Unlimited color, texture, patterns and profile. You can use it over any surface.

Yet you get all these advantages at amazingly low cost using the same craftsmen you use on any quality construction job: Lathers and plasterers. No matter how old a building may be, it's easy to give it a fresh new look with stucco.

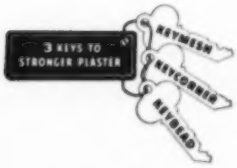
low-cost life, reinforce it with **KEYMESH** *lath*

When you use Keymesh reinforced stucco, you wrap your building in a full inch of reinforced concrete. Think what that gives you: Fire safety; strength; long life; and low maintenance. You get all this at exceptionally low cost. No matter how you figure it, stucco reinforced with Keymesh offers you maximum value for exterior modernization jobs. What's more, it gives you top value as an exterior finish for new buildings, too. It's as modern as tomorrow, yet it complements traditional design. That is why it meets any architectural design.

It will pay you to figure stucco on your next job.

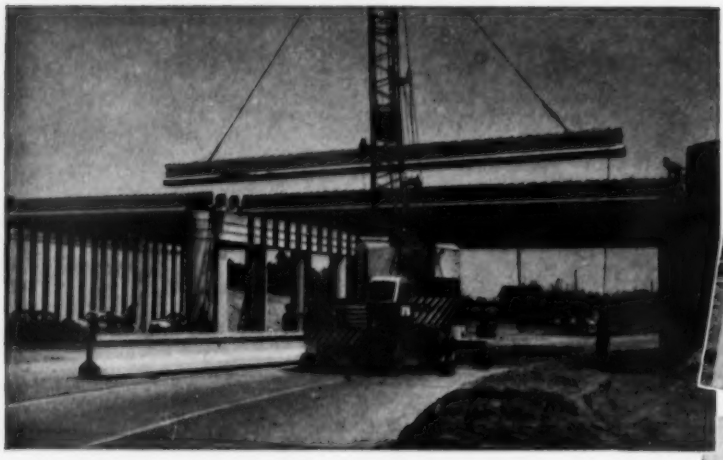
KEYSTONE STEEL & WIRE COMPANY

Peoria 7, Illinois



MAKERS OF KEYMESH • KEYCORNER • KEYBEAD • NAILS
TIE WIRE • ORNAMENTAL AND NON-CLIMBABLE FENCE

Prefabrication COMES OF AGE!



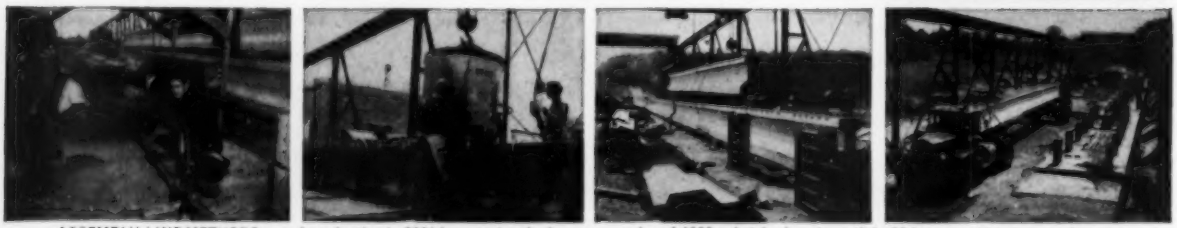
218 Precast, Prestressed Deck Girders, with Spans up to 63', Factory-made for Garden State Parkway Bridges

● Precasting continues its rapid spread, as today's building costs intensify the quest for sound economies. The range of concrete prefabrication is greatly widened by prestressing, which makes possible lighter members and longer spans, for buildings and bridges, with substantial savings in concrete and steel. Prestressing is really pre-testing, because a member is subjected to greater loads in fabrication than it takes in the field.

Factory-made, prestressed deck girders, 218 in number, up to 63 ft. in length, for eight bridges on New Jersey's Garden State Parkway, highlight this trend. Designed by GANNETT FLEMING CORDDRY & CARPENTER, INC., Harrisburg, Pa. and manufactured by FORMIGLI ARCHITECTURAL STONE CO., Williamstown Junction, N. J., every member is field practical, for fast erection with minimum supervision.

Cost in place invites comparison . . . inherent resistance to fire, weather, rust and rot, with no painting and little or no maintenance, mean further economies . . . marking the coming of age of concrete prefabrication.

For school and residential, commercial and industrial construction, factory-made concrete columns, spandrel beams, girders, roof slabs, provide fire-safety, structural stability and pleasing appearance of concrete, at marked cost advantage.



ASSEMBLY-LINE METHODS speed production in 320'-long pretensioning bench at Formigli's Williamstown Jct., N. J. plant, where 5 bridge deck girders were cast at a time and steam-cured. Facia members were post-tensioned at Formigli's Berlin, N. J. plant. 'INCOR'* 24-HOUR CEMENT produced 4000 psi stripping strength in 18 hours, setting tempo of operation, assuring maximum output at minimum production cost . . . with high ultimate strength and durability, hallmarks of America's FIRST high early strength portland cement. *Reg. U.S. Pat. Off.

LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT CORPORATION

Offices: ABILENE, TEX. • ALBANY, N. Y. • BETHLEHEM, PA. BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON INDIANAPOLIS • KANSAS CITY, MO. • NEW ORLEANS • NEW YORK NORFOLK • RICHMOND • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 18 MODERN MILLS, 136,000,000 SACKS ANNUAL CAPACITY

joint ventures

by Siegmund Spiegel*

An architectural firm, whether headed by an individual or a number of partners, must deal with all of the various phases of its intricate practice, and must be concerned not only with all architectural commissions in the office but with the long-range over-all business administration as well. In the case of partnership, the Partnership Agreement will undoubtedly have stipulated in detail, among others, such major topics as:

Duration of Partnership;
Property Rights of Parties;
Financial Arrangements Among Partners;
Rights of Partners in Control and Management;
Authority of Partners to Bind the Firm;
Method of Liquidation of Partnership on Dissolution by Death of a Partner or Otherwise.

In contrast to the usual commissions falling to an architectural firm, there will, on occasion, be situations where the firm will have to associate with one or more other firms. The need for Joint Ventures may arise from various circumstances, but essentially they will be brought about by one or more of the following:

A. A government unit or a private client may wish to draw on the talent and experience of several firms, combining their knowledge to solve a particular architectural problem;

B. An architectural firm may wish to associate itself with a firm known to have particular experience in the execution of the specific type of commission under consideration (in contrast to the more usual retention of a Consulting Architect);

C. A project for out-of-town or abroad, may warrant an association with a local firm of architects whose primary function may be the performance of those services which can best be handled in the proximity of the project.

While the Joint Venture essentially is a regular partnership, it varies from the usual type of partnerships by the fact that it is a partnership with a limited purpose, namely to execute a specific commission.

A subject of crucial importance in a Joint Venture operation is the recognition of overhead items which are not easily recognized. Establishing a percentage of such overhead items toward technical salaries is important with regard to reimbursal to the office of a member firm where work is executed. Many would-be Joint Ventures had difficulties in coming to an agreement on this important subject. This topic is discussed in detail under "Overhead Payment" (*overpage*).

•

The following is a brief listing of the various administrative phases peculiar to a Joint Venture and several observations on specific examples of administration items which functioned satisfactorily in numerous Joint Venture operations:

agreement

As in the case of all legal documents, it is suggested that a lawyer be retained to prepare the Joint Venture agreement. However, the following is a brief analysis which may be of particular interest:

While a Joint Venture agreement will basically follow the points enumerated above for the case of a partnership, certain provisions are generally added which assure that each member firm will be kept abreast with the financial affairs of the Joint Venture more fully, and more frequently than is generally the case in a "permanent" partnership.

Specifically the agreement in most instances will contain:

Purpose of Joint Venture (making specific reference to project and contract terms with owner);

Contribution of Services (of each partner firm);

Sharing of Expenses, Income, etc.;

Advance of Funds (by each, as required);

Receipts, Bank Deposits, Checks, Contracts, and Commitments—This will generally stipulate the following:

Separate Set of Books,
Separate Bank Account,
Designation of members of each firm authorized to sign checks (checks being commonly signed by two representatives, one for each member firm), and

Preparation of Financial Statements, Contracts, and Commitments (e.g., with consultants, also signed by a designated member of each firm);

Work done by Persons in the Offices of the Individual Firms—If the contact with the owner, for instance, is based on reimbursal of technical costs plus fee, this provision will stipulate how administrative salaries, etc., which can not be billed to the owner, and which are not on the payroll of Joint Venture, will be reimbursed to the individual member firms (*see* "General Administration" *overpage*);

* *Architect, Office Manager for Mayer & Whittlesey, Architects, New York, N. Y.*

Death or Disability of a Member and Termination of Agreement;

Amendments to Agreement (Valid only if signed by each member firm);

Status of Principals (This provision may specify whether a principal is entitled to payment for his personal time spent on the project. The latter will be dependent upon whether a principal's time is chargeable to the owner);

Arbitration—Procedures for arbitration will vary. In most instances they will, however, be in accordance with the provisions of the Standard Form of Arbitration Procedure of the American Arbitration Association, and may specifically call for decision by arbitration, being a condition precedent to right of legal action. *Preparation of a clause on arbitration is not a layman's job and should be worked out by a legal advisor.*

office

If a separate office were opened solely for the conduct of business of the Joint Venture, having a partner of each member firm present most of the time, the methods of business operation would be somewhat simplified. However, only projects of considerable magnitude would warrant such an arrangement. Even if a separate office were maintained, there would still have to be a certain amount of duplication, e.g., each member firm would want to keep its copies of the contract and certain copies of essential correspondence emanating from the Joint Venture, etc., on file in its home office.

In most instances operations of a Joint Venture are carried out in one or more of the offices of the member firms. In using existing offices, it is evident that expenses in connection with purchase of furniture, office supplies, etc., can be held to a minimum, though certain "overhead" reimbursements are generally made to the firm where the work is being executed. If the work is done in an office of a member firm, there may also be savings to the Joint Venture due to using technical personnel for work on the project only when required, while during slack periods personnel can be used effectively on other work in the individual member's office.

In order to minimize confusion as to the location of the office of the Joint Venture, an Executive Office is generally selected. This would logically be the office of the member firm where the bulk of the work is executed, and this becomes the office to which mail, etc., is directed.

general administration

Since the Joint Venture is a separate partnership, it is obvious that it must maintain its own set of books, bank account, etc. Expenditures incurred on behalf of the Joint Venture by individual member firms for reimbursal are best held to a minimum, as they will otherwise tend to increase the burden of keeping accounts. Although inevitably there will be reimbursals, they should be restricted to undefinable overhead items.

Personnel, technical and other, working for the Joint Venture may more often than not be on loan from the member firms. As soon as they commence work for the Joint Venture, it is best that they become employes thereof, being paid directly with Joint Venture funds.

Generally all correspondence for the Joint Venture will originate from the Executive Office. In order to keep all member firms abreast of developments in the course of the job, copies of all correspondence with the owner, contractor, or other outside parties are obviously sent to each.

Depending upon the type of contract with the owner, it may be necessary that certain nontechnical salary expense be paid by the Joint Ventrue, which may not be reimbursable by the owner, as may be in the case of a cost-plus-fee contract. This type of expense, which does *not* include secretarial and bookkeeping time, but which covers managerial or administrative functions, e.g., work in connection with partnership administration, account analyses, conferences re production scheduling, employes, etc., must obviously be borne by the Joint Venture. If the job payroll sheet is used as a basis for billing the owner, then it is preferable not to include administrative salaries thereon, but this type of salary can be paid instead by the individual member firm office in which it is incurred, and later it is refunded at its straight rate by the Joint Venture when the members' periodic overhead account is rendered.

The Executive Office obviously will make provisions for keeping and maintaining the job files, as well as such other records as timecards, payroll sheets, records of employment, bill files, insurance certificates, tax files, bank book, checkbook, cancelled checks, such books as are needed for the bookkeeping system in use, etc. These records will be subject to inspection and audit by relevant government and insurance agencies, and where the contract so requires, by the owner. They will obviously be similarly available to authorized personnel of the member firms.

The man in charge of technical work on a Joint Venture operation may at times find himself in an awkward position. While he may have come from the staff of a member firm and may, therefore, be inclined to follow certain procedures, e.g., making major decisions affecting production, execution of details, etc., adhered to in his parent organization, other member firms may have contrary ideas. He may achieve smoother progress of work and his own status maintained if he adopts the practice of notifying each member firm of major decisions made by him, and of out-of-the-ordinary requests made, or instructions given, by either individual member firms, the owner, or the contractor.

financial information to member firms

Since all member firms are properly concerned with the business conduct of the Joint Venture, it has proved useful to prepare Monthly Statements and Balance Sheets. Both documents will relate at a glance, not only the status of account at a given time, but will show the over-all picture to date as well.

A Monthly Statement (*below*) will serve adequately.

overhead payment

In the case of a separate office for a Joint Venture where all expenses incurred are paid directly by the Joint Venture, overhead presents no special problem. However, it does present a principal problem in a case where the work is executed in one or more of the member firm's offices. Reimbursal rates for overhead to the individual firms should be settled in advance. A simple basis should be found for arriving at a moderate fixed percentage, thus thus avoiding detailed allocation for items which cannot be determined easily.

Based on several operations conducted in separate Joint Venture offices, experience showed that the percentage figure for overhead items listed below repeatedly came close to about 25 percent of the technical payroll. Use of this figure in the past proved also to be equitable on Joint Venture operations not conducted in separate offices. The items covered by this 25 percent generally are:

Rent,
Electricity and Bulbs,
Furniture and Fixtures (depreciation and/or loss on sale),
Miscellaneous Office Supplies,
Postage,
Telephone (local),
Clerical Salaries,
Towels and Cleaning Services,
Metropolitan Travel,
Miscellaneous.

In other words, if Joint Venture work in Partner A's office showed a technical payroll amount of $1000 for a given period, Partner A billed the Joint Venture $250 to reimburse him for the cost items enumerated above.

Costs of administrative work, being part of overhead, and reimbursal by the Joint Venture to individual member firms (generally at straight rate) was discussed under "General Administration" (*above*).

Such other typical overhead items which can be determined easily from payroll and other records should be paid for directly with Joint Venture funds. Such items are:

Payroll Taxes;
Vacations;
Sick Leave;
Holidays;
Termination and Bonus Pay;
Blueprints, Photostats, and Photographs (if not reimbursable by owner);
City Taxes;
Insurances; and
Stationery and Printing.

STATEMENT OF INCOME & EXPENSES FOR PERIOD ENDING (Month & Year)

	Per Month of (Name)	Cumulative (from inception to date)
Receipts		
Fee Income	$.....	$.....
Expenditures		
Technical Salaries	.....	.....
Blueprints	.....	.....
Fees Structural	.....	.....
Fees Mechanical	.....	.....
etc.		
Refund of Expenses to Partner A	.....	.....
" " " " " B	.....	.....
Total	$.....	$.....
Net Gain or Loss for Month	$.....	
Profit for Period (Transferred to Balance Sheet)		$.....

MONTHLY BALANCE SHEET

Assets		
Cash in Bank		$.....
Liabilities		
e.g., Withholding Tax	$.....	
& other Taxes	$.....	$.....
Book Worth		$.....
Capital		
Fixed Capital, Partner A		$.....
" " Partner B		$.....
		$.....
Earnings for Period		$.....
		$.....
Withdrawn by Partners:		
Partner A $.....		
" B $.....		$.....
		$.....

(The last figure will be identical with the one shown for "Book Worth")

it's the law

by Bernard Tomson

Where were the architects when Public Law 356 was considered? The purpose of Public Law 356, which was adopted by the United States Congress and signed by the President this year, was to overcome the inequities resulting from "disputes clauses" in government contracts, which make the decision of the Contracting Officer or the head of the agency final with respect to questions of fact, and further to prohibit the insertion of language in such clauses making the decision of a Contracting Officer final on questions of law. In November of 1951, the United States Supreme Court had decided in the case of *United States* v. *Wunderlich*, that the insertion of a "disputes clause" in a contract between the Government and a Contractor which made the decision of the Contracting Officer final and conclusive foreclosed any judicial review concerning questions of fact, unless the aggrieved party could prove fraud with respect to the decision of the Contracting Officer. The Court defined fraud as "conscious wrongdoing, an intention to cheat or be dishonest."

In several columns in which I discussed the *Wunderlich* and other decisions, I urged the profession to take action to protect itself from the principle that had been enunciated by the Supreme Court, to the effect that the government could legally act as Owner, judge, and jury, all at the same time.

Several bills were introduced in Congress to reverse the decision of the Court in the Wunderlich case and public hearings were held. Hearings were held before the Committee on the Judiciary of the House of Representatives in both 1953 and 1954. Some of the organizations and companies which were represented and which testified or submitted statements at these hearings were The Associated General Contractors of America, The California Manufacturers Association, The National Federation of American Shipping, Inc., The Association of American Shipowners, Ship Builders Council of America, Aircraft Industries Association of America, Inc., Automobile Manufacturers Association, The National Association of River & Harbor Contractors, Radio-Electronics-Television Manufacturers Association, American Roadbuilders Association, Merchant Marine Institute, Inc., American Bar Association, etc.

Although the architectural profession has a vital interest in the type of contracts the government writes, no architect or architectural organization was represented at the hearing before the House Committee. In medicine, the Medical Societies are the recognized leaders—not the druggists or pharmaceutical companies. In the field of law, the Bar Associations are the leaders—not real estate dealers, "title companies," or "trust companies." Similarly, architects should be leaders in the field of construction and should be recognized by the industry as leaders.

The action of Congress in adopting Public Law 356 and thereby providing judicial review of disputes which arise between the Government and parties contracting with the Government, does not solve the problem of whether in a contract between Private Owner and Contractor the Architect should be made the final and conclusive arbiter of any dispute of fact or law which may arise. The Courts have said that a contract between Owner and Contractor making the Architect the final arbiter is valid and enforceable. Legal questions aside, however, the ethical problem remains. Justice Jackson, in his dissenting opinion in *United States* v. *Wunderlich*, in referring to the position of the government as both owner and judge, stated:

". . . But one who undertakes to act as a judge in his own case, or what amounts to the same thing, in the case of his own department, should be under some fiduciary obligation to the position which he assumes. He is not at liberty to make arbitrary or reckless use of his power, nor to disregard evidence, nor to shield his department from consequences of its own blunders at the expense of contractors. He is somewhat in the position of the lawyer dealing with his client or the doctor with his patient, for the superiority of his position imposes restraints appropriate to the trust. Though the Contractor may have covenanted to be satisfied with what his adversary renders to him, it must be true that he who bargains to be made judge of his own cause assumes an implied obligation to do justice. This does not mean that every petty disagreement should be readjudged, but that the courts should hold the administrative officers to the old but vanishing standard of good faith and care.

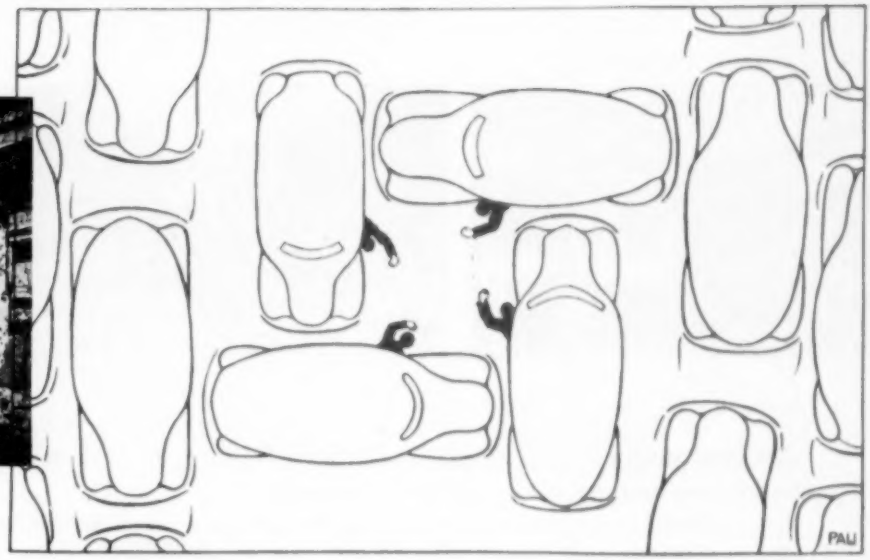
"I think that we should adhere to the rule that where the decision of the Contracting Officer or department head shows 'such gross mistake as necessarily to imply bad faith' there is a judicial remedy even if it has its origin in overzeal for the department, negligence of the deciding official, misrepresentations—however innocent—by subordinates, prejudice against the Contractor, or other causes that fall short of actual corruption. Men are more often bribed by their loyalties and ambitions than by money. I still believe one should be allowed to have a judicial hearing before his business can be destroyed by administrative action, although the Court again thinks otherwise. . . ."

In a contract between Private Owner and Contractor which provides that the Architect shall be the final arbiter of any dispute, an ethical problem is presented. It is whether the Architect, by the nature of his services, is so identified with the Owner that, in fact, the Owner is the judge of any dispute which arises between him and the Contractor. From the Contractor's point of view, a final and conclusive arbitration by the Architect may make him subject to arbitary or capricious decisions, or decisions not supported by substantial evidence. However, where the contract between Private Owner and Contractor provides for the final arbitration by the Architect, the ethical considerations involved differ from the situation in which the contract between the Government and the Contractor provides that the Government Contracting Officer shall be the final arbiter. In the first instance, the bargaining position of the Contractor and Private Owner is on a much more equal basis than the respective bargaining positions of Contractor and the Government. Consequently, if the Contractor does not have confidence in the Architect as a final arbiter, he is in a position to resist the inclusion of such a final arbitration clause in the contract. Further, the Architect, in his capacity as arbiter, acts as a trustee and does not have the same identification with the Owner that a Government Contracting Officer has with the Government.

The individual Architect, in advising the Owner in respect to the contract with a Contractor, should present the question to the Owner of whether it is desirous that the Architect be made the final and conclusive arbiter of any dispute which may arise. The profession, however, should consider the ethical implications arising from the role of the Architect as the final and conclusive arbitrator.

The circumstances which led to the adoption of Public Law 356 and the effect of the law will be discussed in a subsequent column.

Julius Shulman



greater mobility

Freeways . . . turnpikes . . . overpasses . . . cloverleafs . . . parking decks . . . shopping centers . . . drive-ins . . . hangars . . . air terminals . . . motels . . . bus terminals . . .

One has only to list a few such architectural projects, increasingly common today, totally unknown a half-century ago, to appreciate the impact of greater mobility on our lives, and the array of new architectural problems and opportunities it has presented.

Around the turn of the century, the automobile and the airplane became more than curiosities—shortly after the Kitty Hawk flight, an airplane flew across the country; not too long after the first transcontinental automobile trip, the first concrete road was laid—but now, at mid-century, we are only beginning to realize their effects on architecture and planning. We might list some of these as follows:

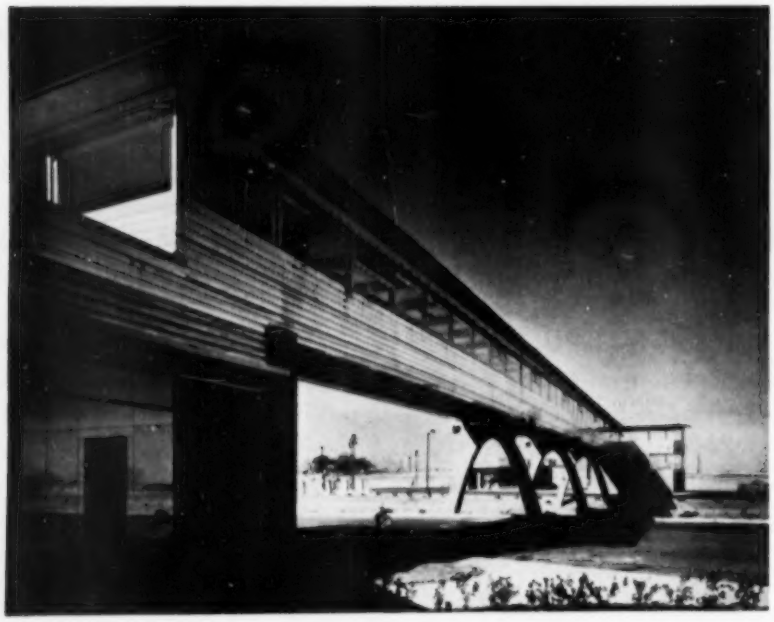
New types of buildings. **These include the ones mentioned at the top of this page, and many more. Some are illustrated in this issue. The list could be multiplied from almost any architect's day-to-day practice—buildings literally unique to our century.**

Changes in older types of buildings. **Such results of greater mobility as parking facilities in office buildings, off-street delivery docks in commercial areas, drive-through lanes in mid-town hotels, drive-in parking units—all are increasingly recognized. Even today's house is affected, as its plan becomes simple and efficient partly because families spend more time moving (shopping, visiting, or just plain driving) and less time confined to the house. "The characteristic influence which**

distinguishes buildings of this age," Dean William W. Wurster has said, " . . . is movement and the very need for change."

Broad-scale planning. The whole modern concept of the regional plan and the master plan; of zoning, distribution of industry, and community development; of the growth of cities and the relationship of suburbs, has been based on man's new mobility. Through history, transportation factors have been prime determinants in the location of cities and the shapes they have taken; a good harbor, the crossing of roads, the mouth of a river. These were limited transportation facilities, and the cities were compact. Now *rapid* transportation produces an opposite effect. Unplanned growth (the exploded "cities" of Los Angeles and Houston) shows the direct result. Planned growth (decentralized industry, motor traffic "patterns," motor-scaled commercial areas, integrated, but related, communities) is based on its estimated effect. Sometimes the estimate goes awry: As bad as in-city traffic jams and parking congestion is the bumper-to-bumper, snail's-pace Sunday traffic on a parkway originally conceived to cure the ill it has aggravated.

This is the age of man's new mobility. Its effect are still largely unrealized, unstudied. The pages that follow give some small indication of architectural and engineering results at mid-century.



A covered bridge in New Hampshire or stone arch in West Virginia (top) *is a far cry from the 10-lane highway or the 7½-mile-long San Francisco-Oakland Bay Bridge. A motor-inspection station in Louisiana* (above) *and the covered passage leading across Oklahoma's new turnpike to a highway restaurant, point up the new building types.*

Ewing Galloway; Frank Lotz Miller; Hawks-Terrell, Inc.

The Architect's Place on the Bridge Design Team

by Roland A. Wank and Fred N. Severud***

That bridges have traditionally been regarded as supreme accomplishments is suggested by the Roman word for priest, which was *pontifex* (bridge builder). With progress in building techniques, and as bridge builders have become more daring, each century has seen longer bridge spans. Numerically, however, the relatively minor overpasses, elevated structures, and tunnels—essential to the trend toward elimination of all major traffic crossings—are in the vast majority today and will crop up most frequently in the practice of architects.

economics and esthetics

Since primary responsibility for a bridge of any size is usually entrusted to an engineer, architects normally function in a consulting capacity. They often participate in the preliminary stage (and to be really effective, they always should) when exact location, alignment, basic structural principle, length and number of spans, nature of approaches, and other major characteristics are still in a fluid state. Determinations are made by interrelated analyses of land acquisition, approach problems, structural alternatives, probability of future expansion for capacity, flood and navigation requirements where such are involved, erection procedure, and other similar factors. These are balanced against each other not only in terms of cost and time but also, in most cases, with some regard to esthetics.

Relative merits of alternative choices are often a matter of opinion and preference. It is not uncommon, therefore, for capable bridge designers to hold opposing views with equal conviction. The nature of their final decision may be called essentially an esthetic one, in the wider sense of the word—having to do with the fitness of a particular scheme for its purpose, its surroundings, or the general philosophy of the transportation system of which it will be a part. (Take, for example, the real or imagined distinction between a bridge on a parkway and a bridge over a railroad freight track.)

Architects can bring to the early discussions viewpoints in which they are usually better conditioned than engineers—partly by their training and partly by their constant dealing with reactions of people at close range. These are generally points pertaining to human and social aspects, including, but not at all restricted to, esthetics. Architects may have worthwhile advice on traffic forecasts which often can be derived more accurately from a knowledge of human tendencies and attitudes than from straight statistical projection. They can size up the effect of an engineering development upon the surrounding land, suggest ways in which that effect can be made more constructive, and appraise the visual impact of a design on the traveler, as well as on the general landscape. They can help with provisions for the control, direction, and safety of traffic which, again, involve not just engineering logic but also the response of people to physical design features. Architects know about lighting, both decorative and functional; about requirements of pedestrians; about color; about aspects of civic pride or commemoration where such are involved.

erection

On the other hand, it may be well to underscore the problems of *erection* as factors far more important in bridge design than in most other fields of architectural practice. Falsework, materials handling, maintenance of traffic or of water flow, and just sheer technical difficulty may swing the balance between alternative design concepts. One of the reasons why prestressed-concrete construction may become increasingly popular is the relative ease of its erection. Other imaginative solutions (such as slipping a preassembled railroad span into place on greased runways, within a few hours, over the New Jersey Turnpike) may make the difference between feasibility or abandonment of a given project.

design readability

Engineers, perfectly competent and often inspired in arranging a balance of loads and structural stresses, are sometimes surprisingly inhibited in creating clarity of expression for such forces. In major long-span bridges, the function of the structure is likely to be so dominant that a degree of beauty—though not necessarily the greatest attainable measure of it—may almost be taken for granted. In lesser structures, it is entirely possible to create ugliness rather than beauty. The beauty of any bridge, large or small, massive or cobweb-like, lies in the exposure of stresses in a chaste, clear, and unmistakable manner so that lay spectators will read and feel the magnitude of active forces and the brilliance of the thinking that compels them to offset one another.

Nor should the importance of this kind of functional esthetics be disparaged when dealing with structures as dominant in size and exposed to view as bridges are—even minor ones. Bridges long survive their designers; in fact, very rarely are they torn down. Thus, almost as much as rivers and mountains, they become part of our common heritage of permanent environment. It has often been argued that their impact upon any pass-

* *Associate, Fellheimer & Wagner, Architects-Engineers, New York, N. Y.*

** *Partner, Severud-Elstad-Krueger, Consulting Engineers, New York, N. Y.*

Venezuelan prestressed-concrete bridge with economy of material and detail evidences structural mastery (above left). *Note abutment bearings of arch members and thin, bulb-edged struts.*

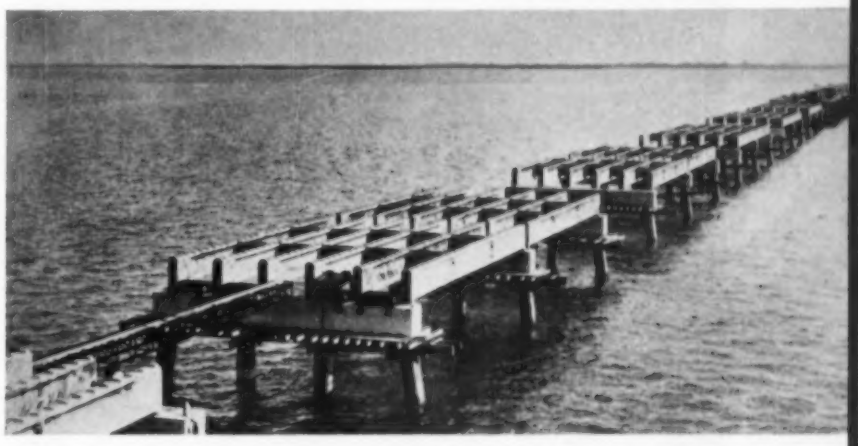
Appeal of this reinforced-concrete design in Sweden is based on complete frankness of engineering (below left). *Note differentiation between approach bents and startlingly thin main-span struts.*

Longest concrete span in California was proportioned with deft assurance in its engineering details, but burdened with elaborate, bulky, and useless abutment piers. Balustrade-type railing seems inappropriate (above left).

Construction photo of French prestressed-concrete bridge, taken after entire span was lowered between abutments as a unit (below left). *Note graceful form and superb interpretation of function.*

ing individual means little in the sum total of his experiences—which may be true in a limited way. Certainly the Whitestone Landing and the Firth of Forth bridges rate high among the thrilling sights of the world. But, in any case, when a project is built to last for centuries and is seen every day by thousands or hundreds of thousands of individuals, the weight of a single impression should be multiplied by millions for a true perspective of the project's role in the physical setting of our civilization.

During the study stage, architects should be able to appraise alternative structural solutions in such terms as hinted above. When the selection has been made, their training in interpretive design should enable them to suggest the particulars of proportion, shape, and detail which, while at times quite subtle, may make the difference between a "readable" design and a seemingly arbitrary conglomeration of steel or masonry.



Bridges in Florida (above) *and Venezuela* (bottom of page) *show possibilities of prestressed concrete in overcoming difficult erection problems.*
Historical data and photo credits for all bridges, on page 190.

basic elements

As a general proposition, it may be appropriate to see whether a proposed design clearly indicates the identity of its basic elements. These are the *passageway* over a gap or an obstruction, creation of which is the purpose of building a bridge; the *span or spans* which support the passageway over the gap or obstruction, generally designed for maximum reach with minimum deadweight; and the *approaches* (as opposed to main spans) which provide a transition for the trafficways connected by the bridge and which, like the trafficways, are supported on the ground continuously or at short intervals so that deadweight does not have critical importance.

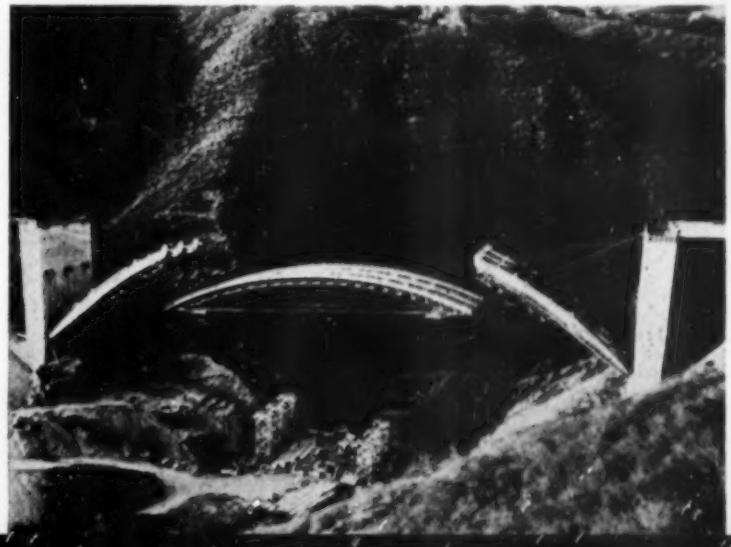
Distinctive characterization of these three elements will tend to provide better readability of bridge designs in the present state of the art. Just below our present horizon, however, there may lurk new and more thoroughly integrated forms to be evolved by further exploitation of the three-dimensional plasticity of reinforced concrete.

With respect to the major span or spans, readability requires clear expression of the structural principle (as bending in straight girder design, compression in arches, combination of tension and compression in trusswork, or tension and anchorage in suspension). Of course, the same sincerity of form should govern the approach spans. Many projects involve more than a single structural principle in various sections of their length; while the design approach should show spiritual kinship throughout, it is worse than pointless to force different principles into the same mold. (As, for example, it would be in the case of the supported and the cantilevered portions of a truss.)

The design of trusses can often be assisted by the architect. Truss spans are prone to become confusing in perspective when the main trusses and the windbracing overlap. Thin members then appear to go off in every direction and the identities of the individual trusses are hard to trace. This condition may not be obvious on two-dimensional drawings; to visualize it and to suggest improvement requires the sort of three-dimensional perception which should be second nature to architects. In principle, the fewer and larger the members, and the fewer the directions in which they run, the less confusion will result in the perspective view. Yet, the means to that end will differ in each case.

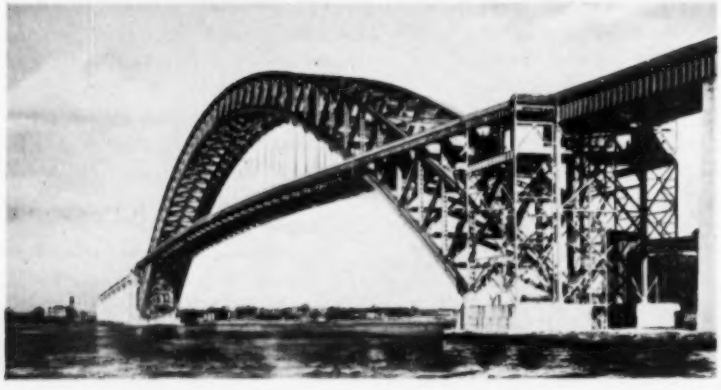
ornamentation

For several decades there has been a good deal of engineer-architect discussion related to the degree of monumental



Suspension bridge over Rhine (destroyed in World War II) was refreshing in the stripped sparseness of its design and unequivocal expression of function, as in the detail of catenary and tower bearings (above left).

A bridge in California much admired for its span and beauty of setting, but afflicted with capricious design and detail of its towers, reminiscent of the zoning setback style and "modernistic" era of building design (below left).



New Jersey-New York steel-arch structure has bold massing with self-explanatory separation of components, frank differentiation of approach spans (above left). *Note framing in place for stone facing of nonfunctional arch abutments—regrettable irrelevance on a grand scale.*

Uncluttered, well-proportioned design at Niagara Falls with abutment spans unspoiled by artificial portal or anchorage effects (below left).

Bridge over Niagara River displays striking simplicity of truss design; clearly legible separation of passageway, navigation span, and side spans; elegant outline (below).

and detail ornamentation appropriate to particular projects; this subject will probably continue to remain controversial for some time. Originally, it was the architect who exerted himself to force the then prevailing esthetic concepts upon the emerging techniques of cast iron, steel, and reinforced concrete. His propaganda seems to have worked too well. Currently, irrelevant detail is often proposed and defended by engineers; partly perhaps in the belief that it is the right thing, and partly (at times) in the hope that some arbitrary steel-plate arch or masonry mass will gloss over defects of structural rhythm or incompatibility of design elements.

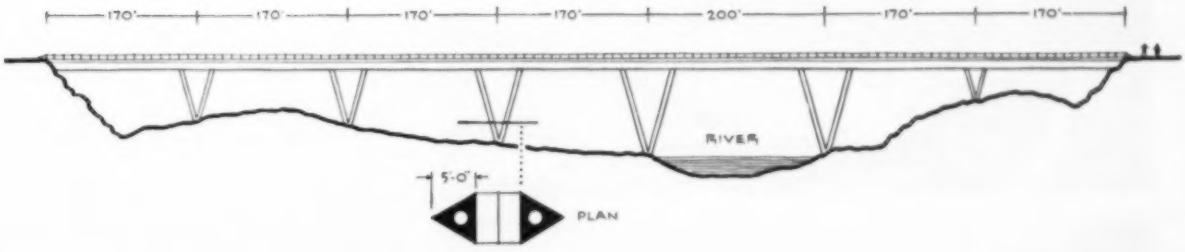
Time was when a span of any size represented great public effort; dedication to a hero or patron saint carried real meaning; towers had to be defensible bastions as well as structural supports; ornamentation, inscriptions, or sculpture could be enjoyed at leisure, at the prevailing speed of travel. Today, we take most bridges in our stride, somewhere between 30 and 75 mph. In fact, highway bridges are intentionally conformed so closely to the highway itself that drivers are often unaware of crossing a bridge at all. Both physically (as in the transition from highway shoulder and guardrail to bridge railing) and psychologically (as in avoiding distraction) safety is promoted by smooth continuity of design.

domination of landscape

Concentration on the travelers' view should not obscure the fact that bridges are large three-dimensional objects exposed to view from many angles and that they often dominate the entire landscape. It is easy to become so preoccupied with the trafficway that the surrounding territory receives little attention —particularly if it is undeveloped or marshy land, a railroad, or a minor waterway. Yet, in all probability, the surroundings will undergo major changes during the lifetime of the bridge, especially if the new trafficway makes them more accessible. Rivers may be made navigable, marshlands may turn into recreational parks, vacant land may develop into high-grade property, dockside slums may change into exclusive apartment districts. Through all of which, the side or bottom view of a bridge may be a permanent eyesore.

styling

Judgment on styling might be based on the fact (well known to every commuter or week-ender) that there never were enough travelways to meet traffic de-



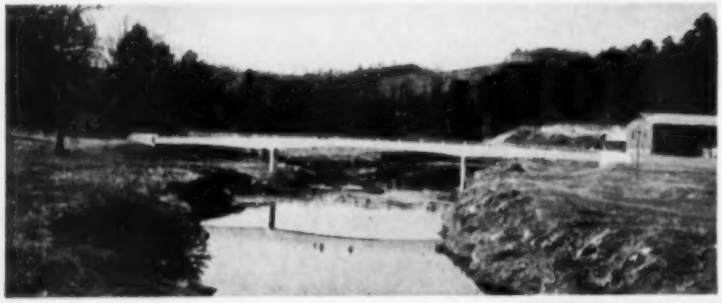
Labored abutments detract from clean pattern of steel in this structure over Cape Cod Canal (above left).

Three-dimensional form used to excellent structural advantage in Mexico. Graceful without any embellishment, the function of all components is self-evident (above right).

Design currently being developed for Pennsylvania Highway (top). *Piers will exploit the potentialities of prestressed concrete for freedom of form and ease of erection (sections balanced about centerline). Upward spreading of pier members will shorten girder spans.*

Expensive stone facing, stepped and setback outline, weak rail, true construction concealed—a style still occasionally seen on current parkway work (above left).

This overpass has a clean rolled-section girder treatment (though with somewhat fanciful tub-shaped parapet detail, not apparent in photo). Bearings exposed to good advantage. Both structures are in New York.



Heavy-duty, rigid-steel plate arch with cantilever ends. Smooth piers minimize obstruction to flood-borne debris (above left).

Graceful pedestrian bridge: rigid-steel plate arch with cantilever ends (below left).

Rigid-arch girder integrated with rail, cantilever ends. Designed for smooth flow and minimum distraction (below). *All three of these bridges were erected in the Tennessee Valley.*

mands, and from all indications, there never will be. The desire of the public to travel always outstrips its ability to pay for adequate facilities. That being the case, it seems contrary to the public interest to use limited over-all funds for disguising perfectly good rigid-frame girders as masonry arches, for granite facing of concrete piers or abutments, for surplus tower height on suspension bridges over the bearings of the catenaries, and similar whatnots. The fact that budgets for toll roads and recreational parkways are often set up to cover such embellishments does not make their esthetics less reprehensible.

Among the recurrent phases of the "monument" concept, one is the surface treatment of concrete. Recessed, molded panels, cap and base members, imitations of Cyclopean masonry are still practiced by highway departments and other designers. Moreover, smooth finish is still prized as the mark of good workmanship and to obtain it, honeycombs are painstakingly hand-filled, the surface rubbed, then refinished with a thin grout. When successful, this procedure results in a facsimile of stucco, with a surface vastly inferior, for weather resistance, to the original concrete, as it stood when forms were stripped. The opportunity to express the brute massiveness of the material by formwork of the proper scale and character has been sacrificed.

Railings are another element that attracts decorative inventiveness. Though the curlicues of wrought and cast iron are rarely seen any more, many fashionable combinations of rolled or extruded steel shapes carry on the same tradition of forced novelty. A modern railing has to meet requirements that were unknown a generation ago, considering the high-speed impact of a bus or loaded tractor-trailer out of control. Therefore, it is practically mandatory to integrate the rail structurally with the deck or the girders. If that is properly and skillfully done, decoration will be superfluous. Skill is needed, though, to combine with the primary requirement some provision for view. Drivers naturally expect a sweeping view from bridges and would at least like to know whether they are crossing a lovely valley or a railroad yard.

Since shoulders are rarely carried across long bridges, cars disabled on a bridge constitute mortal hazards. Therefore, lighting of such bridges is a necessary safety precaution, even when the highway itself is not lighted. On the other hand, light standards themselves are hazards, even when placed at a distance from the pavement and protected by high curbs. About the only safe place for posts is *outside* the bridge girder or rail, with lights suspended over the roadway by long bracket arms—unless, of course, the structure has overhead members from which lights can be hung.

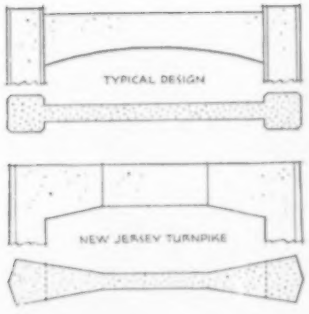
Another recurring aspect of the "monumental" is an inclination to hide bearings of girders or trusses by adding knobs of masonry on piers, and by recessing bridge seats into abutments. This is a great handicap to necessary inspection and maintenance of bearings and can be explained only as a carry-over of short-span building forms. Full exposure of well-designed bearings is essential for "readability" of the structure.

Since most bridges are publicly financed, political influences may intrude upon their design. Officeholders of highway departments, park commissions, and the like are apt to respond to pressures from political figures, rather than to the fresher viewpoints of more sensitive and discriminating groups—a great pity, because today's informed and advanced opinion is bound to become the accepted norm sometime during the life of the project.

Handrail serves as conduit while supports contain roadway lights on inside and marker lights on outside (left). *Scheme developed to preserve exceptional scenic view of Clinch Valley in Tennessee. Not suited for wider bridges, heavy traffic.*

Plasticity of concrete is exploited to place material where needed in rigid-frame bents of New Jersey Turnpike (below center). *Compare with more frequent post-and-beam concept* (below left).

Shape of these New Jersey Turnpike piers is tailored to action of forces (below right). *Rough-sawn formboards, square-edged and spaced slightly apart create texture; "lifts" provide horizontal color variation.*



New Jersey Turnpike

While the nation's airlines continue to set successive records in passenger- and ton-miles flown, their achievements fall into better perspective when compared to other types of transportation. Maximum mobility still belongs to the increasing numbers of cars and trucks on the highways. Significant progress in "super-road" design is typified by the New Jersey Turnpike, among the first of the postwar intersection-free toll routes.

The Turnpike was one of the earliest, and is, according to leading engineers, still the best of the expressways for mixed traffic. The first to be completely designed and built for its specific purpose without federal or state aid, the Turnpike has served as a pacesetter for the dozens of self-liquidating, bond-financed toll roads now on the planning boards or under construction throughout the country.

This 118-mile-long ultra-modern road proved, (1) that motorists and truckers would pay for travel convenience by the mile, (2) that a relatively small percentage of time saved would induce a driver to route his trip via the Turnpike rather than over the existing toll-free highways.

All seventeen interchanges, with their toll stations (*below*), were situated so as to be of use to local as well as through traffic (*see map acrosspage*).

To insure a profitable volume of traffic, a highway superior in design and construction to any predecessor was considered essential. On this premise, the Turnpike Authority called in special consultants to set the general design standards. Major fields for planning were safety, allowance for uniform speeds, elimination of factors causing delay, ease and economy of vehicular operation, and service facilities. Six lanes, each twelve feet wide, and surfaced with flexible asphaltic-concrete pavement (12 in. thick), have been laid on the northern 22 miles of the Turnpike; four lanes on the southern stretches where traffic is lighter. Future widening is contemplated along the entire route. To minimize accidents, the shoulders and center island strips have been hard surfaced.

It was recognized that the appearance of subsidiary structures was also of prime importance. With this in view, Architects Fellheimer & Wagner, were assigned to assist the engineers in producing simple buildings and bridges, with pleasing lines and form.

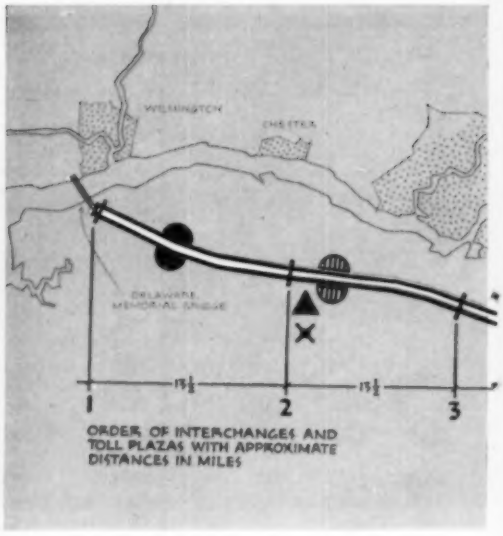
The two largest structures on which architects and engineers collaborated were the crossings over the Hackensack River (*in foreground above*) and the Passaic River. Both provide long viaduct approaches with a clearance of 110 feet over the water and spans of 375 feet. Only two miles apart, the two bridges were treated as one unified design. As a point of particular interest, they contain the longest plate-girder spans ever built in this country. Special attention was devoted by the architects to the design of bridge abutments and handrails, and construction materials (*see* ARCHITECT'S DETAILS).

Varying plans were also developed for a multitude of minor bridges and overpasses. Most are constructed of plain rolled-beam girders with concrete deck.

client	New Jersey Turnpike Authority
chairman	Paul L. Troast
vice-chairman	George V. Smith
secretary-treasurer	Maxwell Lester, Jr.
chief engineer	Charles M. Noble
general engineers	Howard, Needles, Tammen & Bergendoff
section engineers for design and construction	J. Greiner & Company Gannett, Flemming, Gorddry & Carpenter, Inc. Parsons, Brinckerhoff, Hall & MacDonald DeLeuw, Cather & Company Fay, Spofford & Thorndike Amman & Whitney Howard, Needles, Tammen & Bergendoff
associate section engineers	Edwards & Kelcey Frederic R. Harris, Inc. O. J. Porter & Company
general achitects	Fellheimer & Wagner
associate-in-charge	Roland A. Wank

Another important aspect of the architect's work was the development of the signs and warning signals along the route. A careful sequence was worked out by Roland Wank, of Fellheimer & Wagner, who felt that well-designed indicators would be indispensable toward eliminating many of the commoner causes of accidents. The signs are large and of simple geometric shape, to be easily identified and read at high speed, and spaced to give motorists ample warning of approaching exits, traffic hazards, and service installations.

New Jersey Turnpike

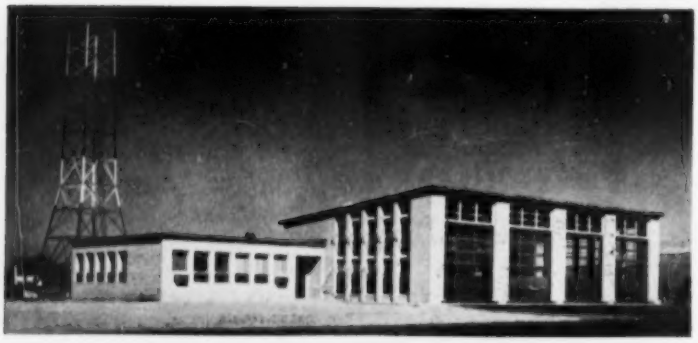


Beside assisting in the design of bridges and developing highway signs, the architects had sole charge of planning facilities for the aid and convenience of travelers. These projects included an administration building, 6 maintenance headquarters, 20 toll stations, 5 equipment stations for short-wave communication towers, and a chain of restaurants and gas stations.

Uniform design standards required economy of construction, provision for future expansion, attractive exteriors and interiors, sturdy, fireproof materials, and a minimum of maintenance expense.

Each toll-collection booth (*above*) serves two traffic lanes. Utility buildings adjoining toll plazas are the narrowest possible, to reduce expensive grading.

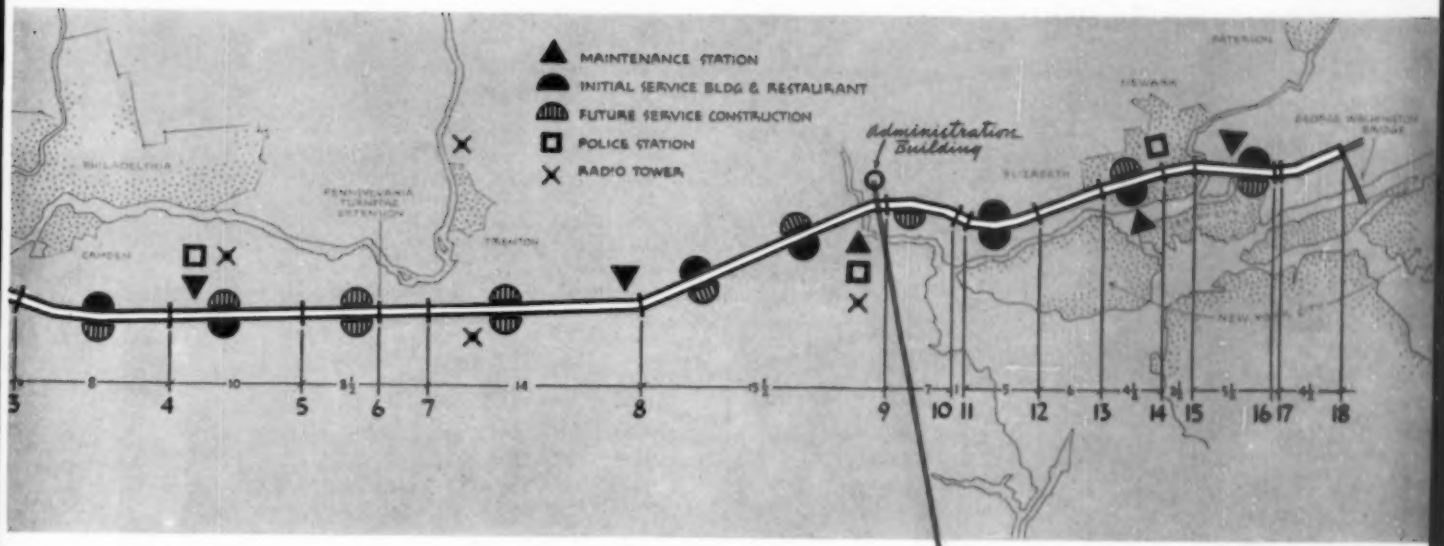
In the maintenance buildings (*below*) offices are oriented to control access roads to and from the Turnpike. The remainder and largest section of the buildings contains an automotive maintenance division on one side, shops and stock rooms on the other.



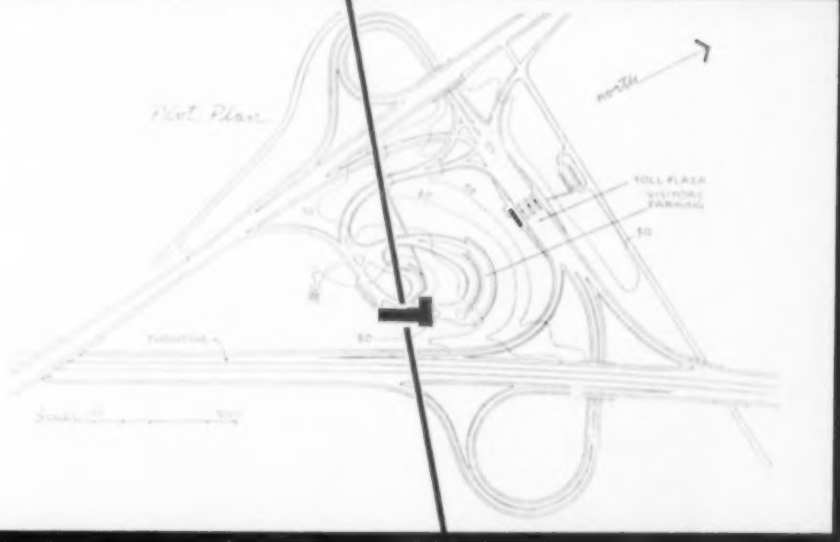
Toll collection facilities (above) *are prefabricated of welded-steel-plate construction. Random-ashlar facing protects the base.*

Location of five short-wave communication towers (left) *was determined by radio reception conditions.*

Steel-framed maintenance buildings (left) *faced with buff-colored brick have steel-sash windows. Slabs of insulated concrete were used for roofing. Offices are air conditioned.* Photos (except as noted): Gottscho-Schleisner



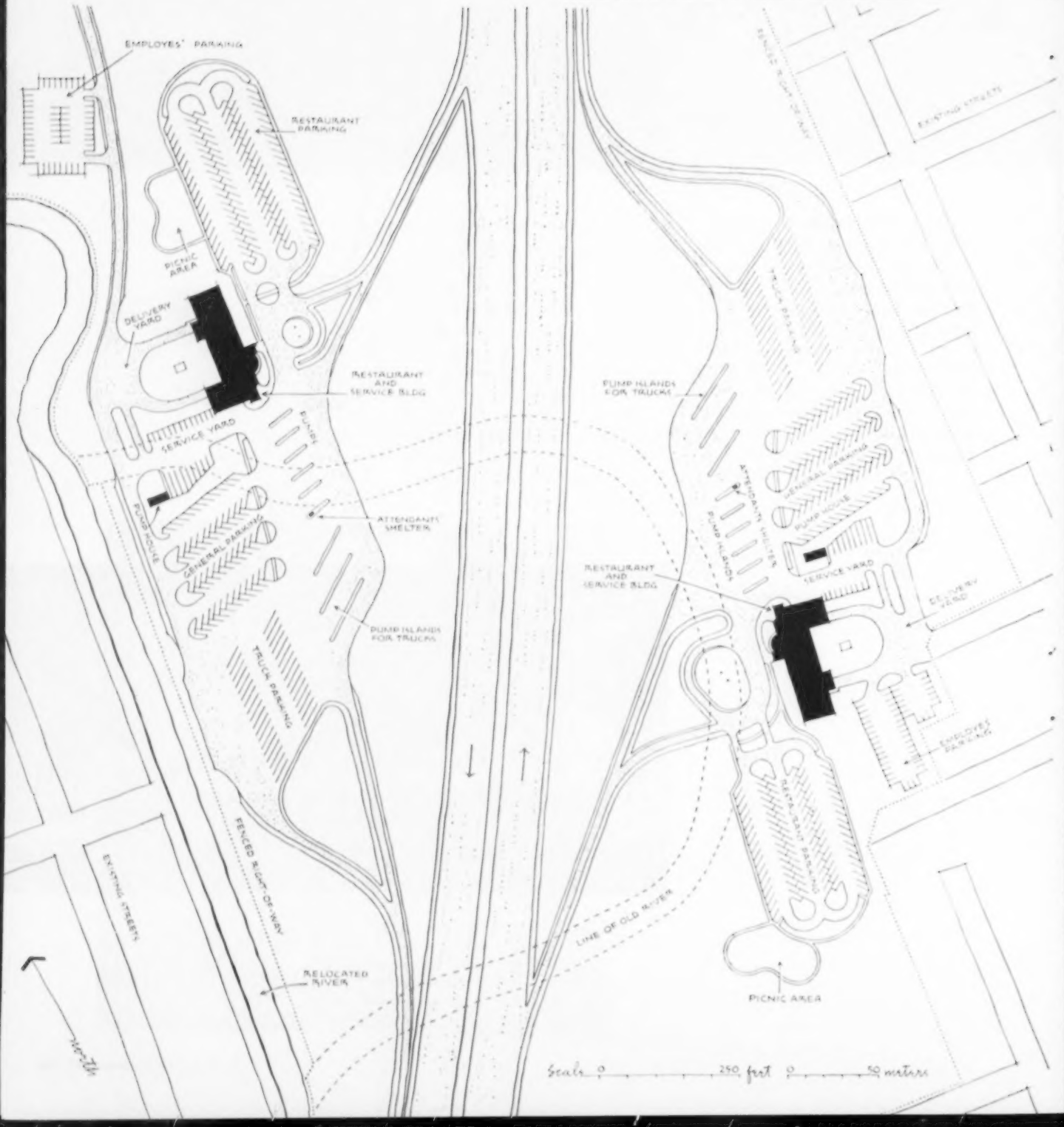
The administration building (*below*) overlooks several miles of the Turnpike, the Raritan River bridge, and a toll plaza with its ramps. An exterior of light-buff Roman brick and blue-green heat-absorbent glass helps to emphasize the building as a landmark. Yet in its well-landscaped setting, it complements the surrounding countryside. The building is strategically located, near the center of operating and maintenance activities, and is close to the metropolitan area whence most employes are drawn.



The administration building (above), *seen from the Turnpike, is located on the northern half near one of the 17 interchanges. The structure is of steel. Windows are steel sash set in marble frames. The building is air conditioned, acoustically insulated, and illuminated with fluorescent fixtures.*

New Jersey Turnpike

Restaurants and service stations (below) are owned by the Turnpike Authority. Since a substantial portion of the total income is derived from the concessions, exceptionally attractive facilities were justified. Other features of concession sites are parking areas and small picnic grounds. To reduce excessive weaving of traffic, these facilities are not located near interchanges. Acceleration and deceleration lanes 1200-ft long are at entrance and exit points.



It was deemed desirable to offer facilities for eating and resting at all service points. Most service stations have adjoining lunchrooms with counters and booths seating 65 persons, while larger restaurants (above) *with a seating capacity of 200 are found at strategic intervals.*

Detail of restaurant entrance (right). *The major exterior materials are sandstone and brick.*

Wall paneling in dining room (right) *is walnut plywood. Floors throughout public areas are terrazzo; ceilings, mineral acoustic tile. Large curtained wall of ¼"-plate glass faces the Turnpike. Aside from dining rooms and lunch counters, buildings also contain small souvenir shops, lounges, washroom facilities, telephone booths, and vending machines.*

Two lower photos: Ostergaard

bus maintenance center

location	San Francisco, California
architects	Skidmore, Owings & Merrill
partner-in-charge	John B. Rodgers
structural engineer	Isadore Thompson
mechanical engineers	Rogers Engineering Company
general contractor	Barrett & Hilp

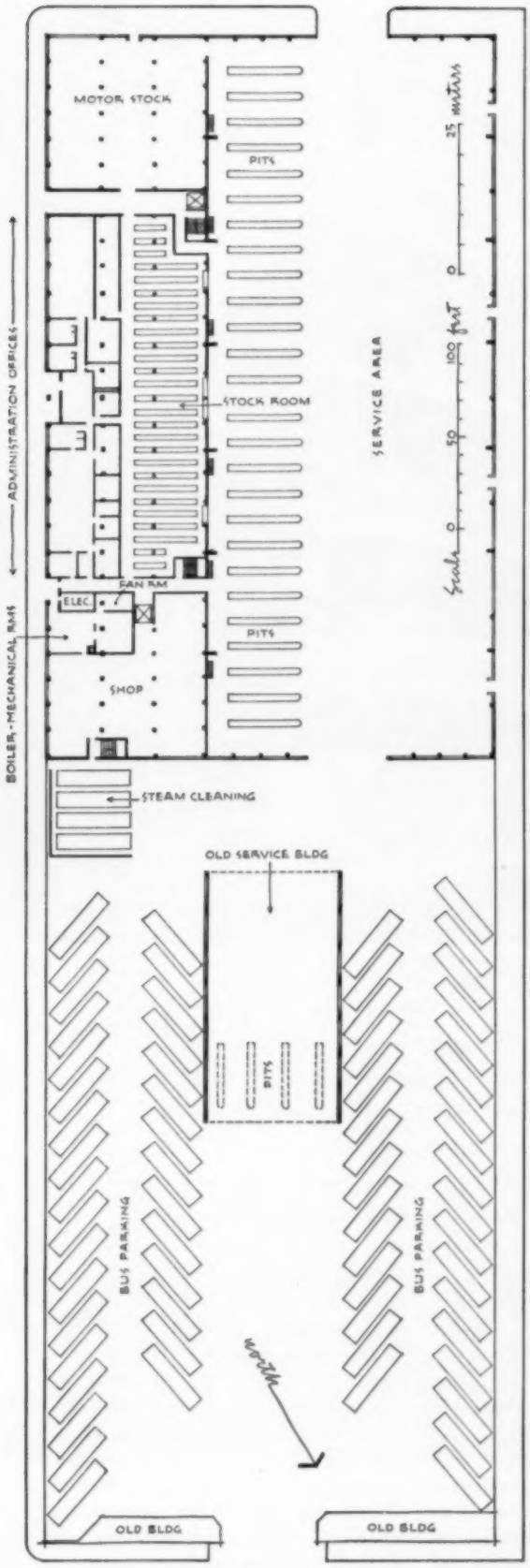
Travel by bus has become increasingly important—because of the contact that the bus network affords with otherwise isolated points—as well as the comfort, speed, and comparative economy of the modern, long-range carrier. Again, new building types result: the terminal; the way station; and (as here) the maintenance depot.

The depot presented, designed for Pacific Greyhound Lines, occupies a city block (240′ x 825′) in an industrial district not far from the downtown bus terminal. The north half of the site, to which buses come at the completion of runs, is mainly a parking yard. In the middle is a "routine check-up" building. The structure at the south end of the block was designed to handle buses needing actual repairs, replacement of motors, etc. The main service area of this structure—the subject of this study—is 153 ft wide by 400 ft long. Adjoining is a two-story unit containing shops, parts rooms, stock room, offices, and test rooms.

The main work floor has no columns to obstruct free movement of the coaches, some of which are as much as 40 ft in length. The roof of this hall is supported by six reinforced-concrete, three-hinged arches of 153-ft span and spaced 56 ft apart. The arches are connected by steel purlins on 14-ft centers. On these purlins rest the supplementary roof supports, light-gage steel joists on 24 in. centers. Metal lath and ¾ in. vermiculite plaster, applied in two coats, form the ceiling surface.

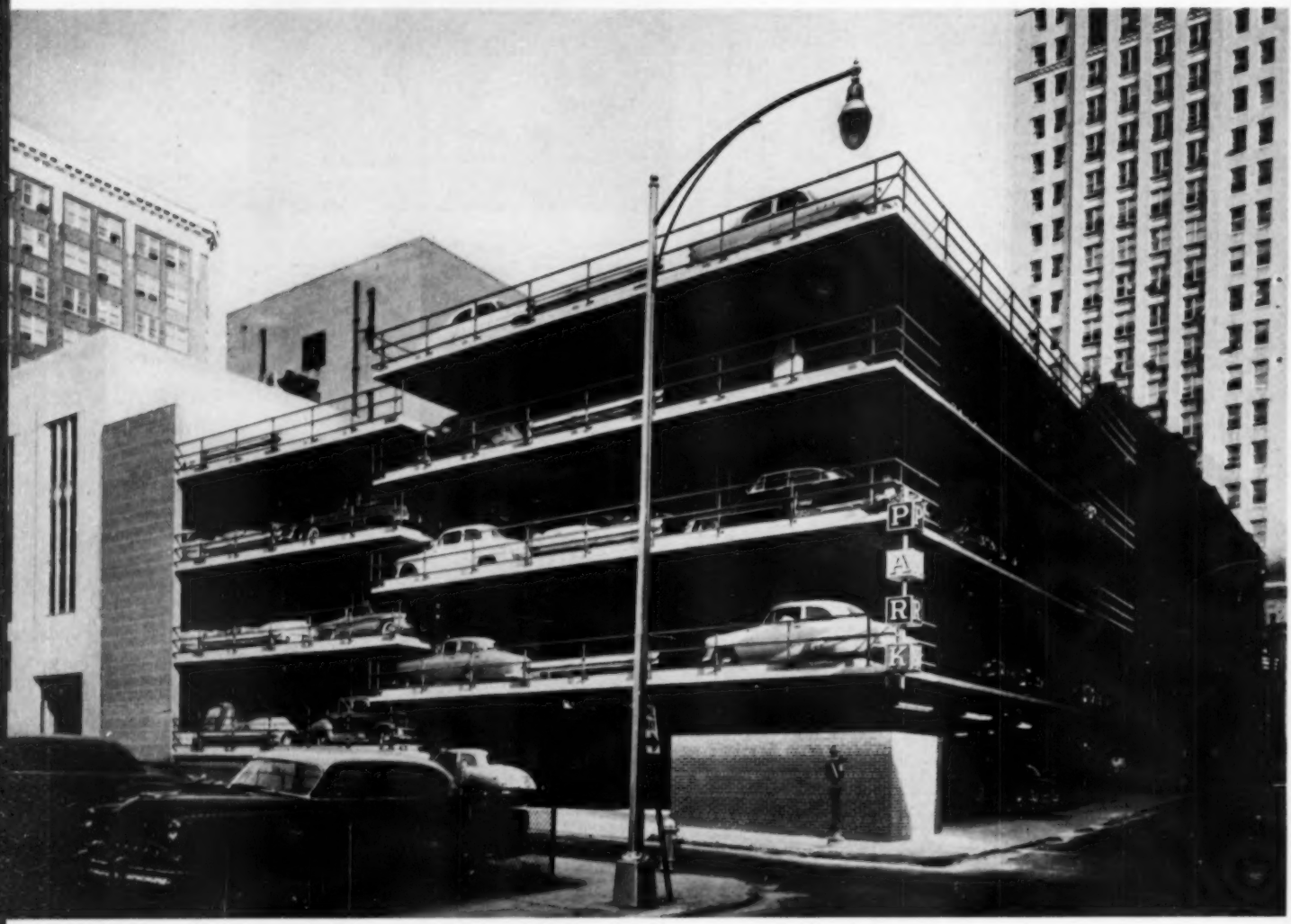
Built on filled land, the structure is supported on concrete piling. Exterior walls are of reinforced concrete up to a height of 4′-6″; above this is a 20-ft band of continuous steel sash, glazed with clear glass.

Photos: Stone-Steccati & Moulin Studios



Along one side of the huge room are 26 service pits 33' long; 3' wide; and 4'-6" deep, in which the men can stand upright at their work (above).

When a motor must be dismantled, it is removed from the bus by portable crane and taken by freight elevator to second floor, for test and overhaul. Maintenance crews immediately replace the faulty motor with a rebuilt or a new engine.

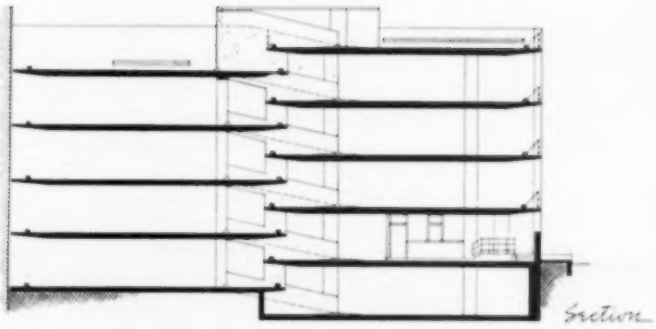


parking deck

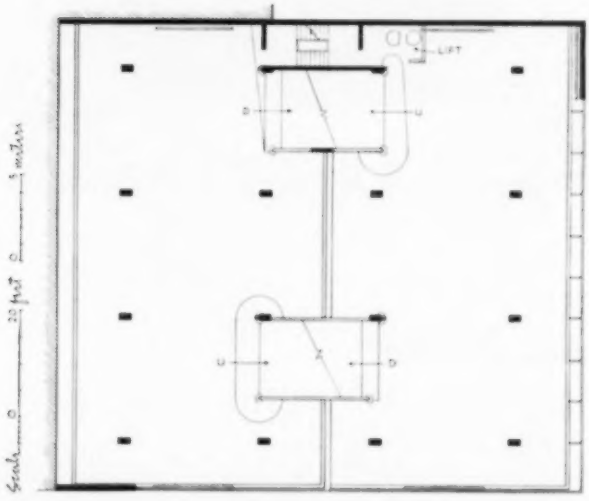
location	Atlanta, Georgia
architects	Aeck Associates
designers	Richard L. Aeck and David J. Murphy
structural engineers	I. E. Morris & Associates
electrical engineer	Charles F. Howe
mechanical engineers	Donald F. Lindstrom & Associates
general contractor	Wesley & Company, Inc.

An outdated two-story mill structure, originally used as a stable, made way for this new open-deck parking garage. Strategically located opposite a large hotel, the building is a block away from a leading department store and a number of office buildings. On the 90′ x 100′ corner site, eleven overlapping parking levels provide space for 210 cars. Economy of materials and ingenious design resulted in the unusually low construction cost of $850 per car parked.

Half of the old basement was excavated 2′-6″ deeper. The other half was raised with the fill to form the basis of the split-level system. Two separate structures, connected only by driving ramps, were erected on these levels. Pouring of concrete and the forming and placing of steel went along simultaneously on both sides. Each floor, a beamless reinforced concrete flat plate, was cantilevered on all four sides. Cantilever construction was employed to avoid disturbing the walls of adjoining buildings and to limit the number of columns, that would interfere with traffic. A man lift was included for the use of the car jockeys. Common-brick curtain walls were used next to adjoining buildings, to comply with the Fire Code. Office and toilet partitions are of structural glazed tile. A new oil-resistant waterproof flooring material, capable of withstanding heavy traffic, surfaces the top decks. Railings, tile partitions, and a plastic sign lend touches of color.



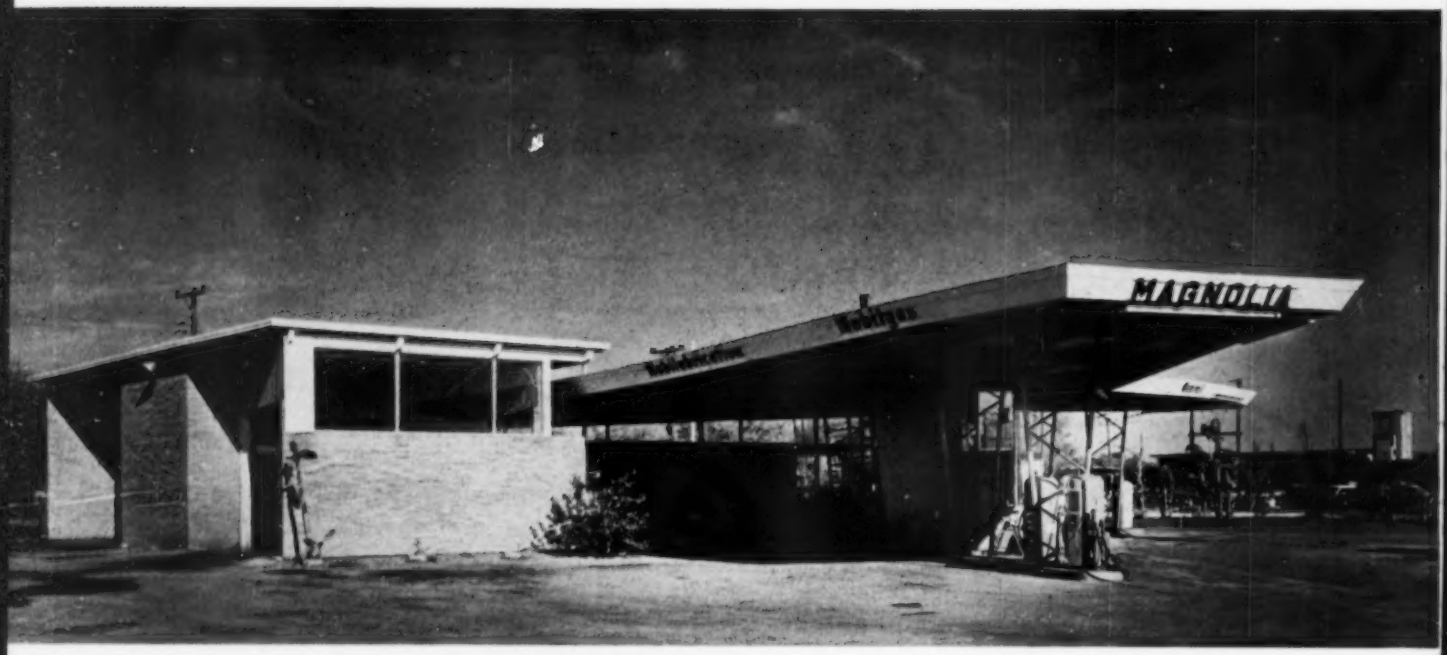
Section



Overlapping levels (above right) *increase car storage capacity. A car in live storage requires only 290 sq ft.*

Ramp runs are short (above left) *due to minimum floor-to-floor height (10'-0").*

Photos: Rodney McCay Morgan



service station

location	Harlingen, Texas
architects-engineers	Cocke, Bowman & York
owner-contractor	John McKelvey

Three structures on separated islands constitute this service station at the intersection of a main highway and a residential street. The service divisions are:

1. A glass-enclosed control office with attached pump stations. From here one man can supervise all operations in the station. The angular shape of the pump island makes it possible to serve a number of cars simultaneously.

2. Washing and grease racks.

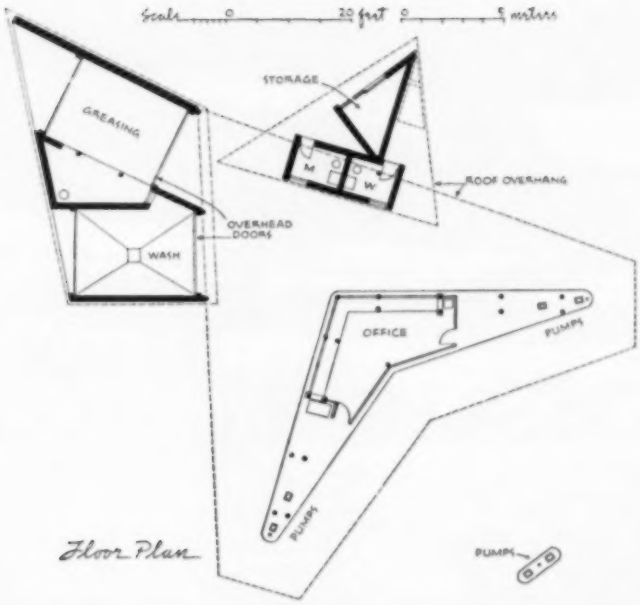
3. Rest rooms and storage facilities.

"By pulling the wash and grease rack separately as well as the rest rooms," explain the architects, "we were able to create a large shaded space between the three elements. This space is used to good advantage for polishing and washing cars, away from our hot Texas sun."

The comparatively large unobstructed service area was achieved by cantilevering a huge arrow-shaped roof over the office structure. Vertical pipe trusses projecting through the roof serve as columns, from which the roof framing is suspended by steel cables.

The foundation is a floating concrete slab. Other major materials in the building are wood, brick, and glass.

Cost per square foot was about $5.



Floor Plan

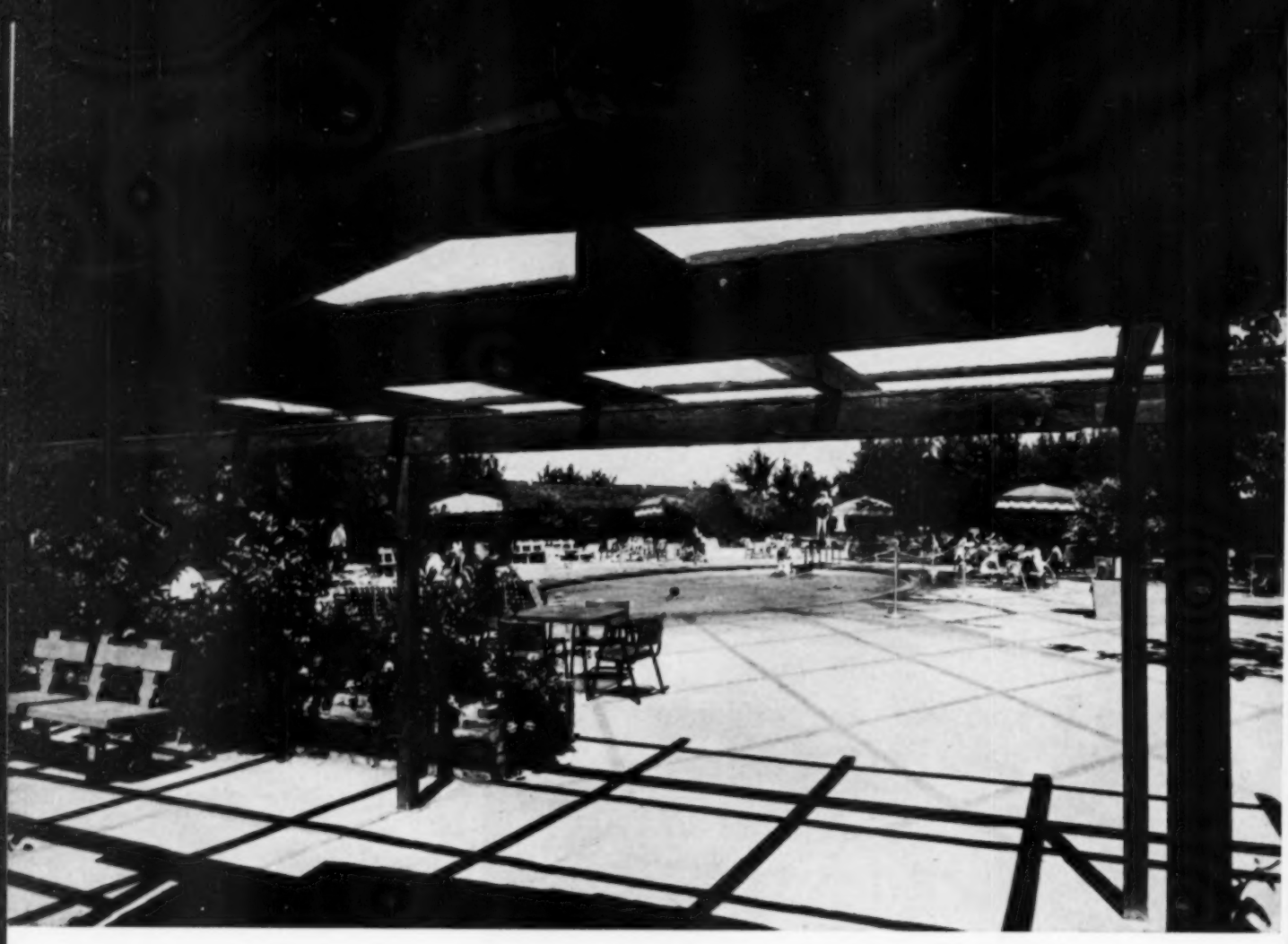
Wash and grease racks are enclosed in the brick structure at left (acrosspage).

The owner likes the full visual control afforded by his glass-walled office (above).

Photo: Ulric Meisel

Cars can maneuver easily between office, service facilities, and rest rooms (right).

Purnell Photos



motor inn

location	Palo Alto, California
architects	Kump Associates*
structural engineer	Eric O. Moorehead
mechanical-electrical engineers	Buonaccorsi, Murray & Lewis
landscape architects	George Goodman Gordon and Douglas Baylis
furnishings	Barker Bros.
general contractor	Barrett & Hilp

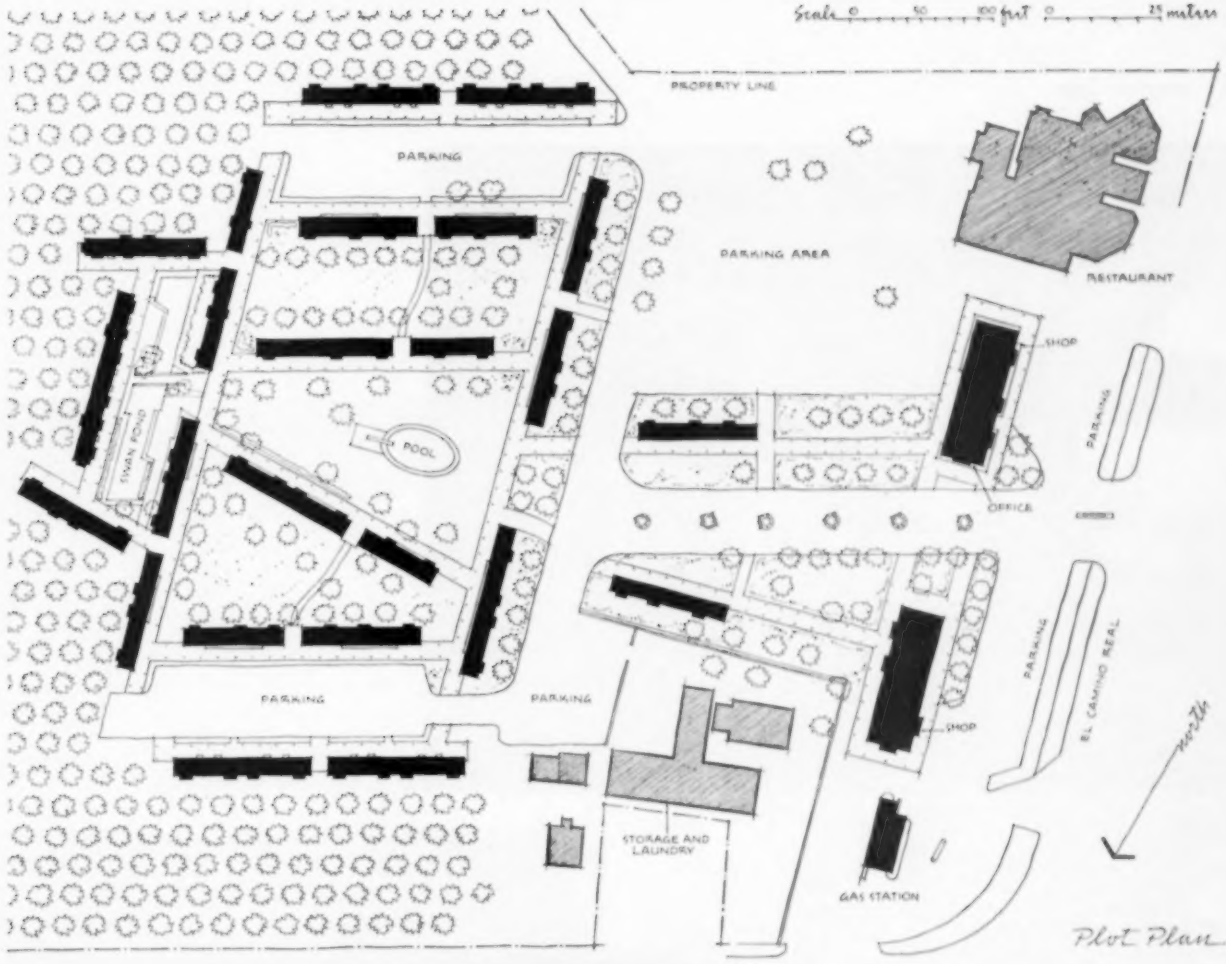
*Ernest J. Kump, James D. Fessenden, Delp W. Johnson

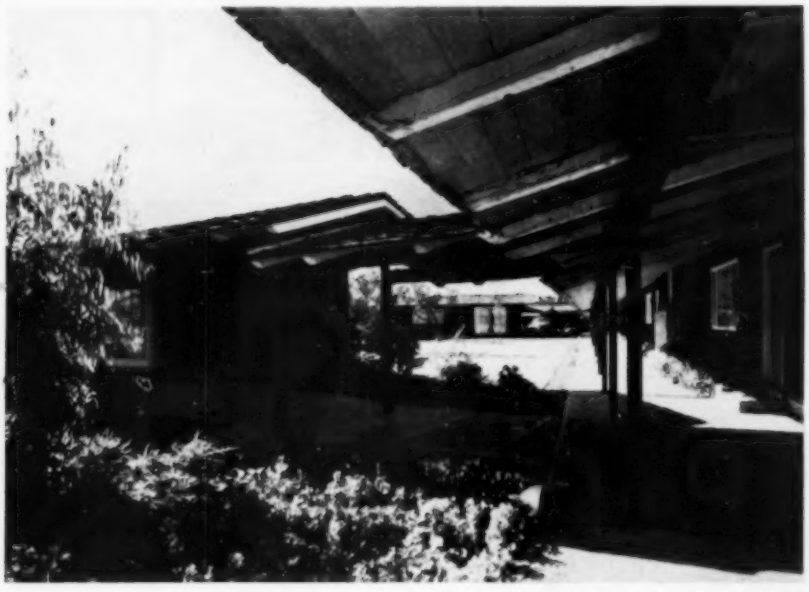
The sophisticated find it warm and friendly—and, here and there, agreeably amusing; the unsophisticated consider it downright glamorous; all agree it's fabulous. The object of such reactions? Rickey's Studio Inn—"a garden hotel"—just south of Palo Alto on California's renowned El Camino Real, a major highway along the San Francisco Peninsula.

The most obvious of the new building types resulting from highway travel is the roadside hostelry, matured, in many instances, to the status of a well-regulated hotel. Here is an unusual example of a step beyond that. For many years, Rickey's Restaurant has been one of the most popular luxury-trade eating places in the area. Now, built alongside, among the trees of a thriving, 12-acre apricot orchard, is this extraordinary highway hotel facility. In addition to the 82 rental units (eventual expansion contemplates a total of 175 or 200), there are two retail-shop buildings and a gasoline station co-ordinated in design with the rental "studios." Not to mention a swimming pool and a swan pond! The inn, which offers full hotel service, attracts vacationers and semipermanent guests, as well as the overnight tourist.

"We had fun designing," Kump's office reports, "almost deliberately not trying too hard—consciously setting out to be neither too dramatic nor too intellectual."

Structure consists of concrete slabs, the buildings framed with wood posts, girders, and rafters on 4-ft centers, and a plank, T&G roof deck. Connections are either clip angles and bolts, or sheet-metal connectors. Exterior walls—redwood boards; roof—hand-split cedar shakes. The contractor shop-fabricated the walls, partitions, door frames, and windows as panel units, and joined them on the site.





Well back from the highway is the spacious core of the group, with its oval swimming pool (acrosspage) *bordered by a landscaped terrace.*

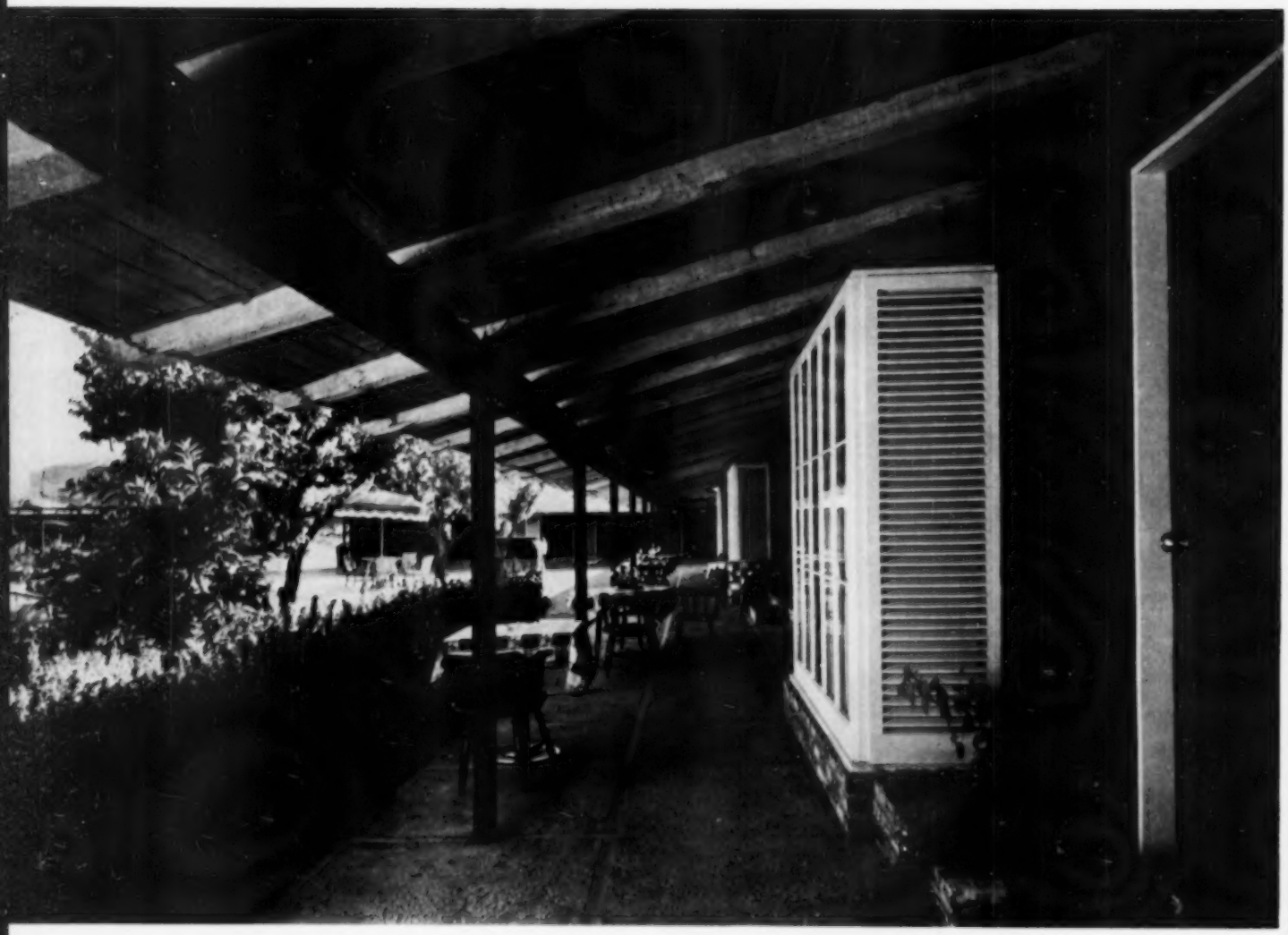
Two retail-shop structures (below), *including Rickey's office, flank the main entrance from El Camino Real.*

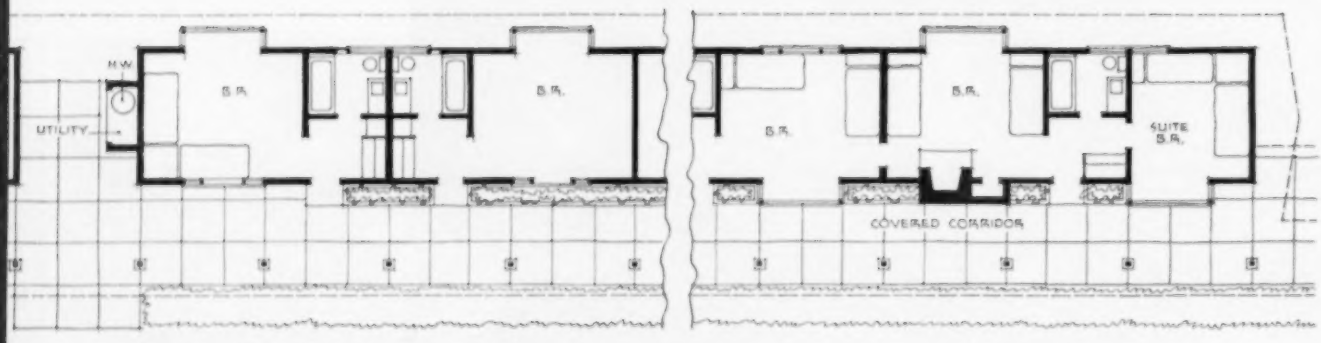
Most units are connected by roofed walks (left) *making it possible to reach all parts of the project under cover.* Photos: Roger Sturtevant

The group of commercial units at the forward part of the site acts as a buffer for the guest areas, against traffic noise and confusion. At the same time, they form an eye-catching, readily identified frontage.

The service station was especially designed to harmonize with the rest of the inn development. Both retail-shop units were planned as open lofts, capable of easy subdivision to suit particular tenants.

The owner had on hand a quantity of old timber—beautiful, clear Douglas fir lumber, 12"x12", 8"x16", and 6"x16"—that he had acquired from a dismantled brewery. These were used, either in original dimension or re-sawn, for exposed posts and beams.





Plans of Typical Units

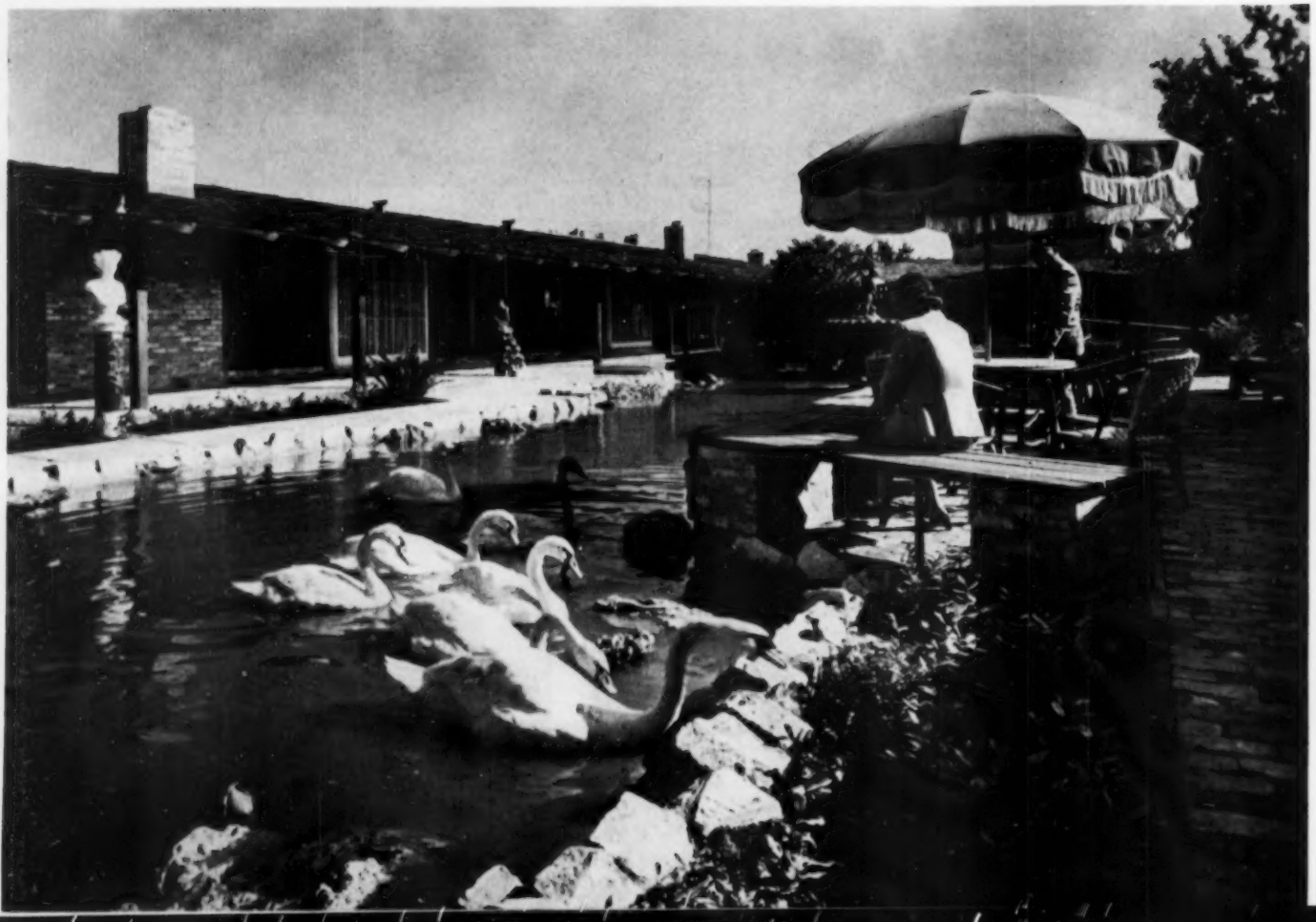
Scale 0 10 feet 0 3 meters

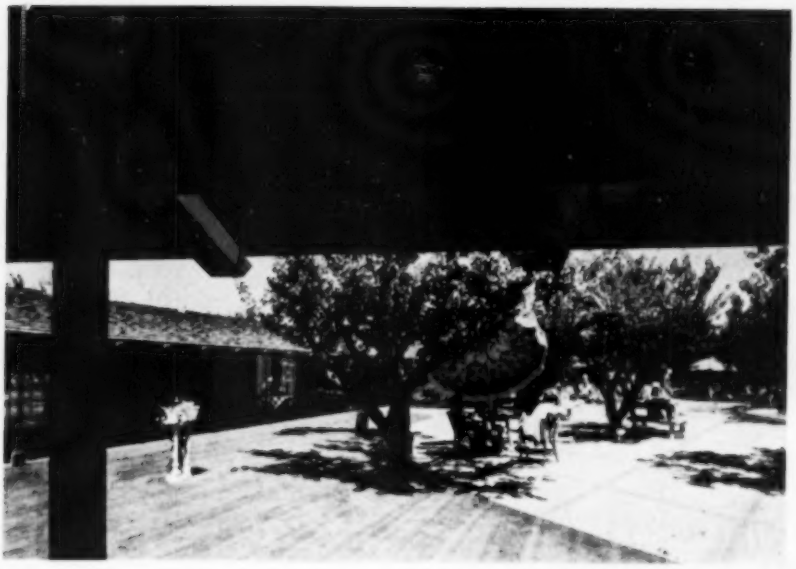
One-bay-deep wings, with bordering covered walks, contain the rental "studios," with units consisting of a twin bedroom and bath, or rooms arranged en suite. Many of the furnishings and accessories were acquired by the owner at auctions.

The typical, rectangular-bay windows in the guest rooms consist of a central, fixed, transparent unit, and side casements behind fixed louvers. These not only provide cross-ventilation and protection from intruders, but also increase the apparent size of the rooms.

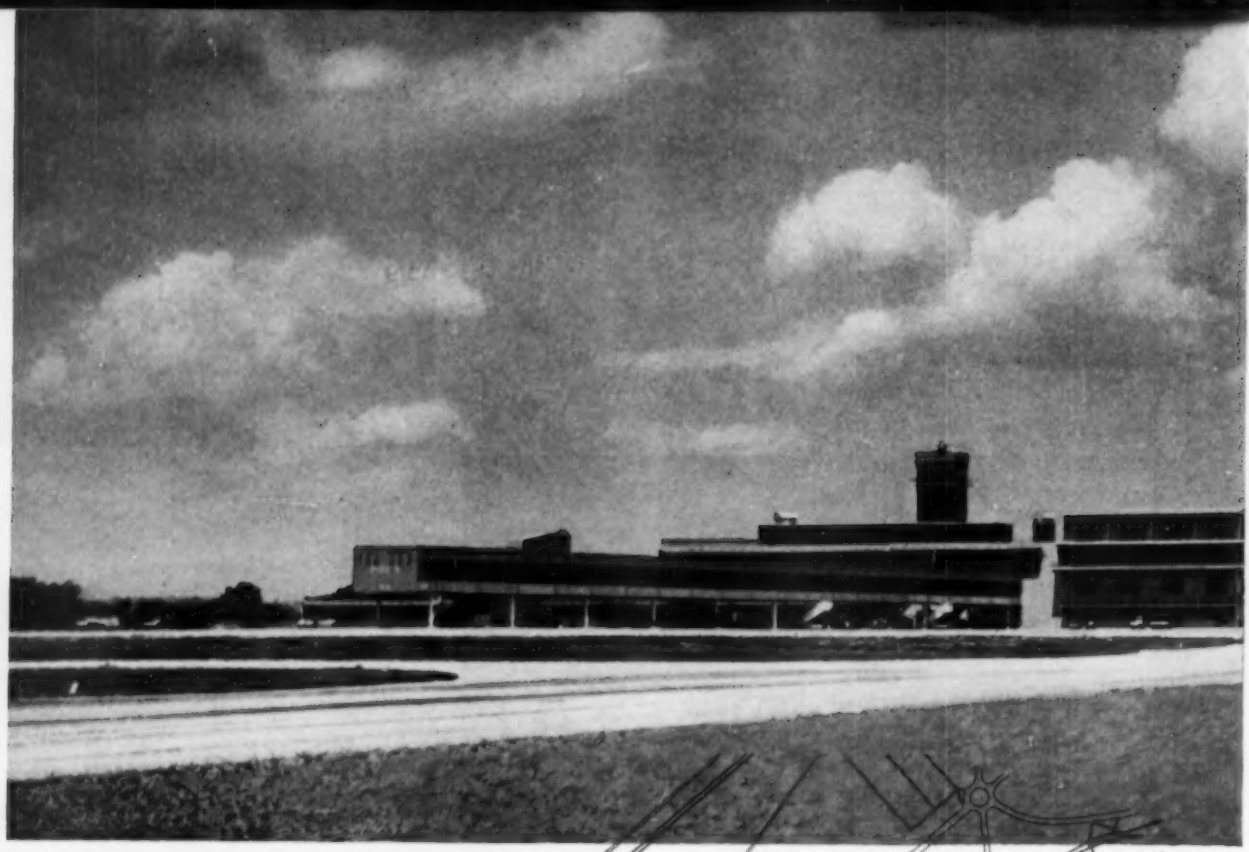
motor inn

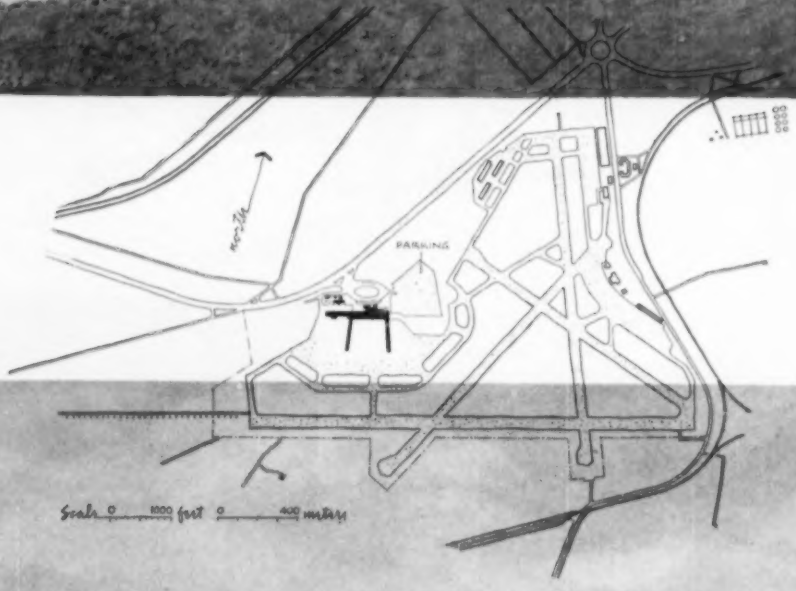
Among the amenities of the hostelry is the exotic swan pond, almost wholly surrounded by guest units. The owner's touch is seen in the classic busts on marble pedestals, used as occasional accents.

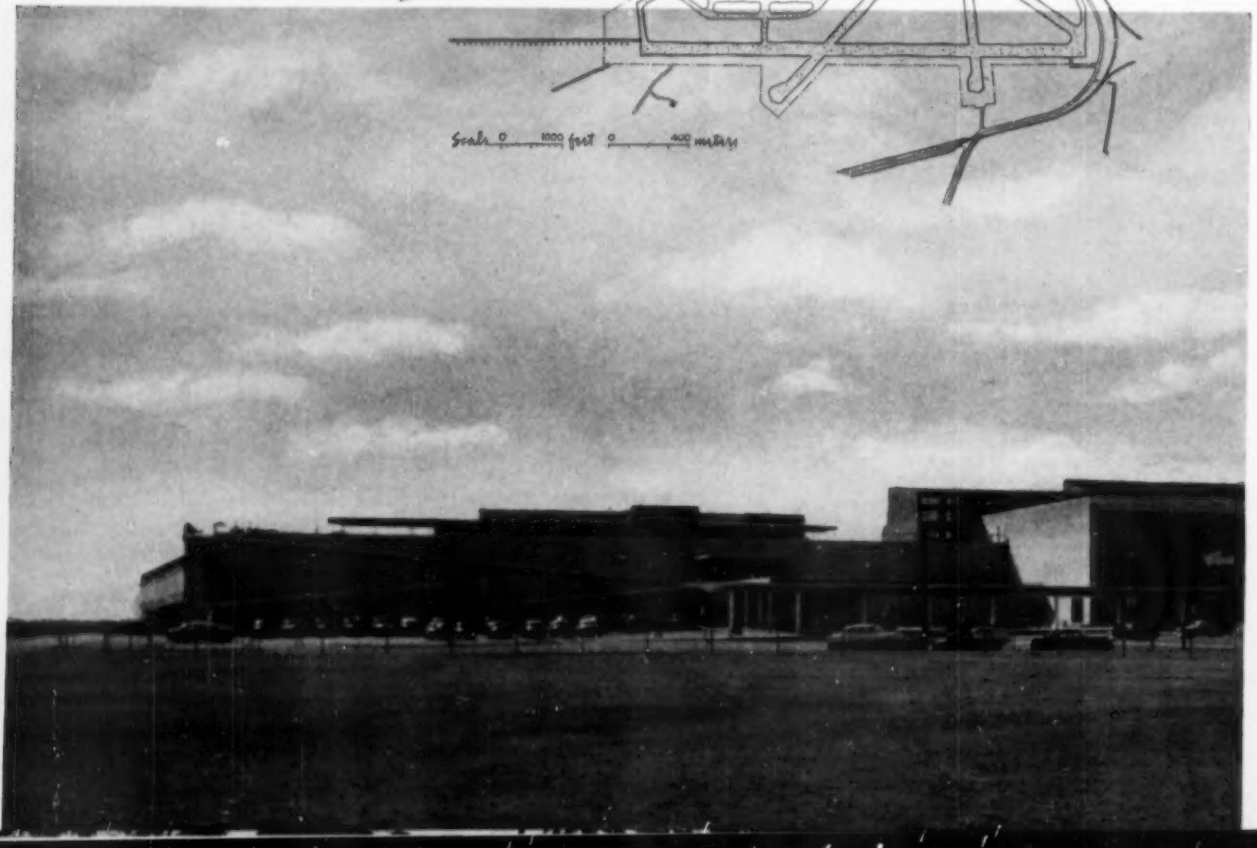


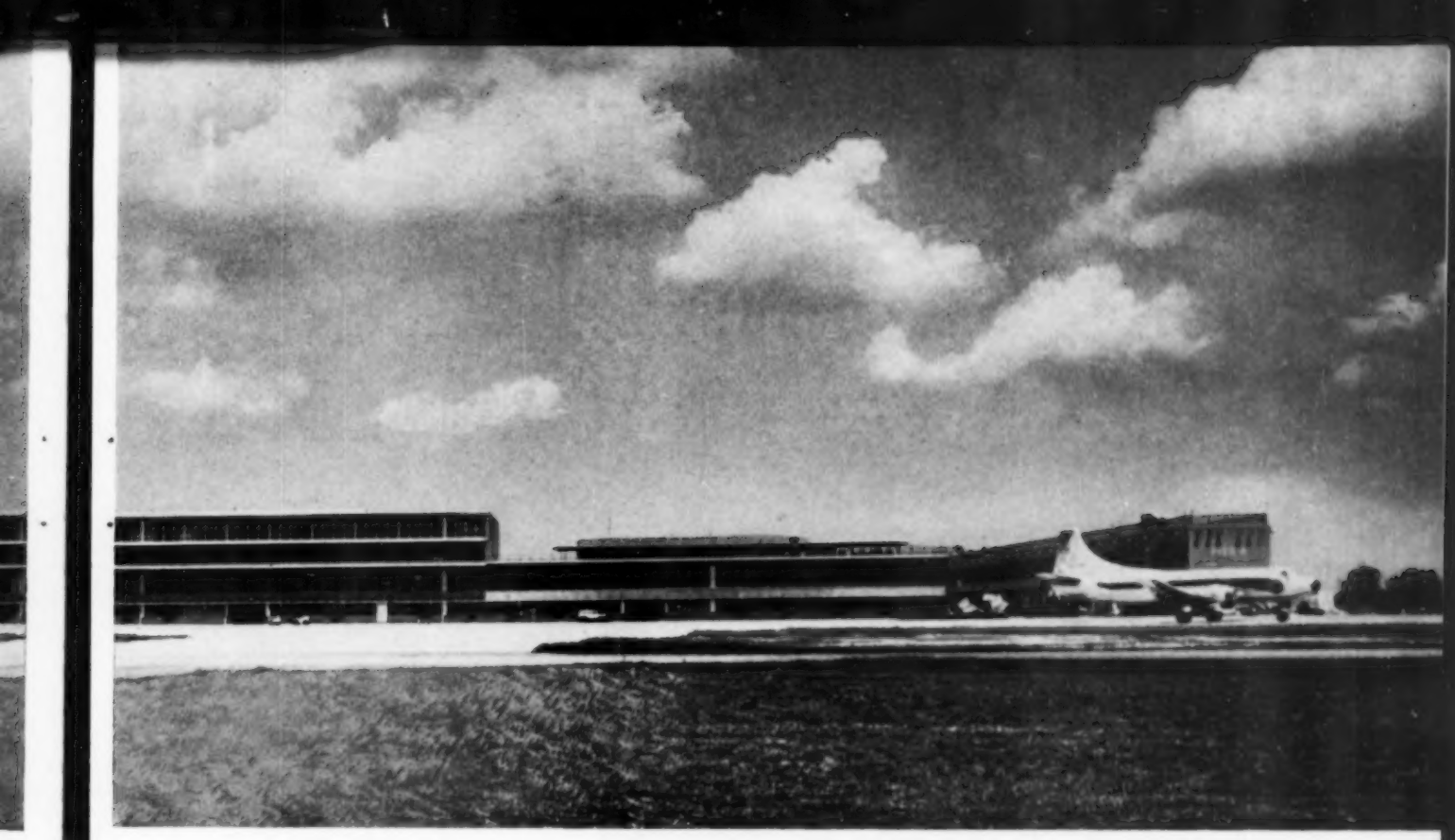


The buildings are set among the apricot trees of an orchard; terraces, planting, and a restrained amount of sculpure complement the building groups. The covered walk shelters, stepping down to follow a contour, provide protected passage from one part of the inn to another and also form a bold design element of their own.




PARKING
Scale 0 1000 feet 0 400 meters





location	Philadelphia, Pennsylvania
architects	Carroll, Grisdale & Van Alen
consultants	Airways Engineering Corporation
structural engineer	Irving S. Towsley
mechanical engineer	A. Ernest D'Ambly
electrical engineer	C. Warren Bogan & Associates

international airport terminal

international airport terminal

Bordering the glass-and-steel north wall of the 40-ft-high main entrance lobby (below and acrosspage) *is a curved, 400-ft-long platform, protected by a concrete, cantilevered canopy 28 ft wide and supported on a single row of columns 24 ft o.c.*

Just west of the main lobby element is a covered walk (right) *along which already-checked baggage can be taken directly to the ground-floor baggage area.* Photos (except as noted): Alfred A. DeLardi

Most complicated and perhaps most interesting of the architectural problems produced by man's ability to travel rapidly from one place to another is the airport terminal building. But the old woman who lived in a shoe had nothing on the architect commissioned to design such a structure. The architect's embarrassment of riches, however, consists of a multiplicity of "clients" rather than children.

Basically, of course, he must devise a system as efficient as possible for transferring passengers and their baggage from the ground into the air and vice versa. Planning for this prime function, however, will be considerably modified—and, to a degree, compromised—by required consideration of all of the other interests: demands of the competing airlines; the economic consultant's concern with money-making aspects (only about 15 percent of the terminal's revenue derives from the airlines); the needs of related governmental agencies; and the numerous separate requirements of the ubiquitous airport visitor. Not to mention air mail, air freight, etc., etc.

The varied interests inevitably present irreconcilable arguments pro and con one of two quite opposite basic design approaches that have so far been developed:

1. The long, strung-out unit scheme, each airline having its own small station immediately adjoining its own plane-loading stations (the so-called peripheral system, as found in Boston, Chicago, etc.)

2. The "centralized" approach wherein all passengers, whatever line they travel, pass through one central public area and are exposed to and patronize the beckoning, money-making concessions (Pittsburgh, Fort Worth, Dallas, etc.).

The splendid new Terminal Building for the Philadelphia International Airport shown on these pages seems to us to be as successful an amalgam of all factors as has yet appeared. And oddly enough—perhaps typically—though the completed project employs the centralized scheme, using two-level, "finger" corridors to channel passengers (upper level) and baggage (ground level) to and from plane stations, this approach was adopted only after the architects' drawings for a peripheral scheme—the initial stated goal—were 65 percent completed. Indeed, the design history of this distinguished building appears to be virtually a capsule review of current criteria and theory of terminal design *(P/A "Airports" issue, May 1953).*

Outgoing passengers enter the tall, terra-cotta-walled, quarry-tile-floored lobby and proceed by moving stairway up to the ticketing and waiting-room level. After baggage is weighed, it is dropped by chute to the baggage-handling space on the ground floor and from this point on, movement of persons and things is kept separate until they reach the planes. Incoming passengers descend the stairs shown or stair leading to the baggage-claim counter.

The third-floor public lounge, like the adjoining main dining room, commands a dramatic view of flight activities. End wall is black terra cotta.

Even before one is familiar with the floor plans, it is useful to appreciate the basic organization of the building on its three main levels. We have already seen the passengers' entrance on the first floor. The remainder of this level (toward the field side) consists of flight-operations offices; baggage-handling areas; dolly concourses (and the ground level of the "fingers"), along which *things* are moved; a central kitchen; air-mail, express, and cargo spaces; the U. S. Customs bonded warehouse; and equipment rooms.

The second floor is chiefly a passenger-service level—ticket counters, main waiting room, coffee shop, concessions, etc., plus direct access to the upper level of the "finger" concourses, along which outgoing and incoming passengers travel to and from the planes.

On the field side of the third floor are the lofty public restaurant and lounge (*above* and *acrosspage*), with both structure and heat-absorbent glazing angled to permit dramatic and unhindered views of flight operations, in the sky as well as on the field.

Airways Engineering Corporation of Washington, D. C., originally held the prime contract with the City to design the entire airport. Carroll, Grisdale & Van Alen were retained by them, with the City's approval, to design the main buildings. Later, the City of Philadelphia engaged the architects as prime design

contractor for the building and for its supervision.

The original program, developed in 1946, with technical advice from the Philadelphia Airlines Technical Committee, composed of representatives of all the scheduled airlines then serving the City, specifically called for a peripheral, unit-type plan. Subsequently, when the Airline Terminal Corporation replaced the earlier organization, the program was completely reversed and called for a centralized, finger-type scheme instead. Not least of the reasons was that concessionaires and the City would stand to profit much more handsomely by this scheme than in a peripheral-type plan. It also meant that there would be no assigned gate positions for any one line; rather, all lines would use the best available spot along the fingers.

At first, there was much hopeful talk of consolidation of operations among the various competing lines, the first step being consolidation of baggage-handling, with consolidated servicing of planes, and ticketing to follow. However, none of these things took place or has yet taken place, and a baggage-conveyor system designed to deliver all baggage to a common area on the ground-floor level was revised so that each airline would have its own chutes and baggage-collecting area.

structure

Two basic considerations governed the selection of the structural system: (1) the city building code required a Type 1-A fireproof structure (reinforced-concrete framing or structural-steel framing with fireproofing in contact with all parts of the steel); (2) architectural considerations placed great importance on flexibility for future location of heavy-masonry partitions, underfloor work, and both horizontal and vertical extensions. After studying several typical designs from an over-all cost point of view, a reinforced-concrete framing system was selected as most nearly fulfilling all requirements. Basically, the design consists of two-way flat slabs supported on perimeter beams 24 ft on center—all cast integrally and designed as a rigid frame.

Because of code requirements for minimum slab thickness, 3000 psi concrete proved most economical for all-around application. To provide flexibility for future underfloor work, a lightweight concrete fill 5½ in. thick was placed over the entire floor system. To permit freedom of partition location, a partition dead load was assigned to all floor slabs, beams, girders, and columns. "These provisions for dead load plus the actual structural dead loads and live loads varying from 100 to 400 psf explain the rather heavy structure," reports Richard C. Hagy of Towsley's office.

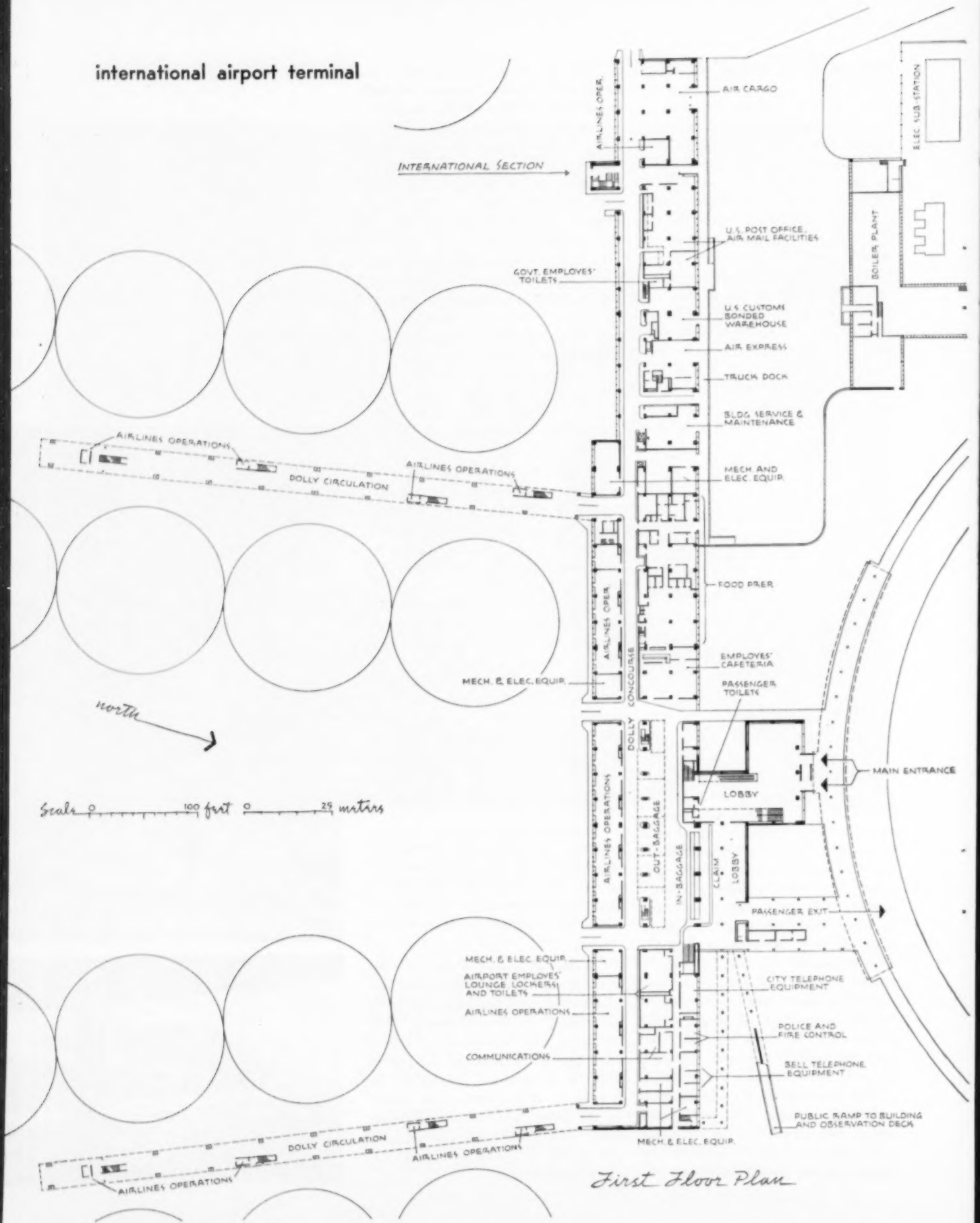
In the main reinforced-concrete section of the building, members were sized with uniformity of dimension as a guide. In general, columns are the same size from ground level to the upper stories. Where possible, beams framing into columns were kept the same width as the columns and all the same depth. This simplified forming at the juncture of the beam soffits and the construction joint at the top of the columns.

The design for the mullions required to carry the main entrance glass wall (40 ft high and 100 ft long) was governed by their length, requirements of minimum size, area of glass, wind loads carried by each member, and inaccessibility for future maintenance. Because of its corrosion resistance and high allowable working stresses, high-strength steel was specified. The mullions hang from a cantilevered section of the roof and were designed as welded trusses with top and bottom chords shaped as arcs of a circle; minimum mullion depth occurs at grade and roof levels and maximum depth at mid-height—about 20 ft above grade. Tops were framed directly between two steel channels that carry vertical loads transmitted by the mullions as well as the horizontal wind reaction. Bottoms were fixed in a horizontal direction to accept wind loads but were allowed free vertical movement. Thus, all vertical loads were transferred to the structure at the top—maintaining the mullions in tension.

Test borings located a layer of compressible material below grade that was incapable of sustaining loads that would be delivered by spread footings. This fact, along with the presence of ground water near the surface and the general weight of the structure, dictated the use of piles for all foundation work including the ground floor—but, excluding exterior paving. Over 3700 concrete piles were driven to a sand and gravel bed about 30 ft below grade.

Progress photographs show concrete framing for restaurant (below) *and typical framing for main section of building* (bottom).

international airport terminal

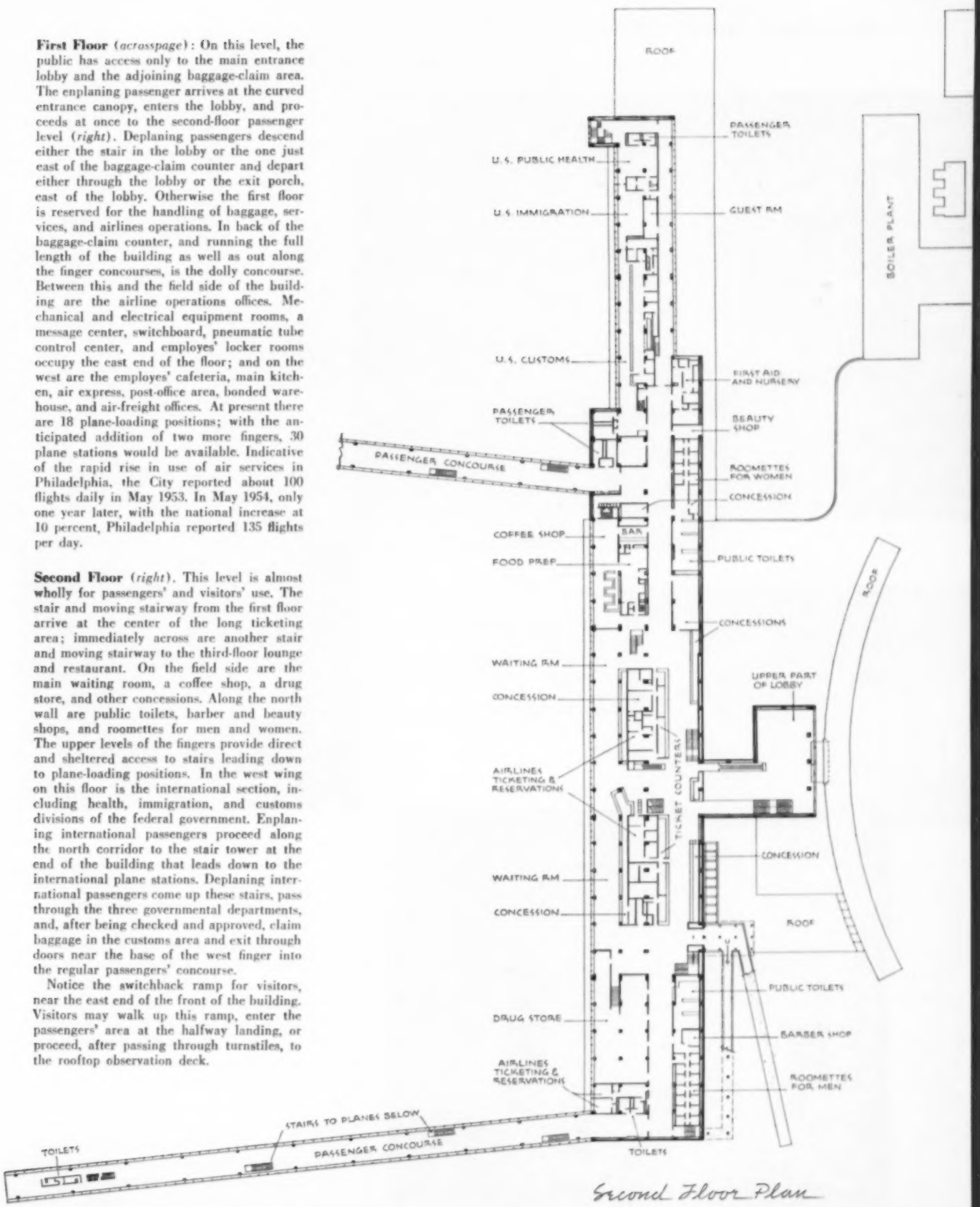


First Floor Plan

First Floor (*acrosspage*): On this level, the public has access only to the main entrance lobby and the adjoining baggage-claim area. The enplaning passenger arrives at the curved entrance canopy, enters the lobby, and proceeds at once to the second-floor passenger level (*right*). Deplaning passengers descend either the stair in the lobby or the one just east of the baggage-claim counter and depart either through the lobby or the exit porch, east of the lobby. Otherwise the first floor is reserved for the handling of baggage, services, and airlines operations. In back of the baggage-claim counter, and running the full length of the building as well as out along the finger concourses, is the dolly concourse. Between this and the field side of the building are the airline operations offices. Mechanical and electrical equipment rooms, a message center, switchboard, pneumatic tube control center, and employes' locker rooms occupy the east end of the floor; and on the west are the employes' cafeteria, main kitchen, air express, post-office area, bonded warehouse, and air-freight offices. At present there are 18 plane-loading positions; with the anticipated addition of two more fingers, 30 plane stations would be available. Indicative of the rapid rise in use of air services in Philadelphia, the City reported about 100 flights daily in May 1953. In May 1954, only one year later, with the national increase at 10 percent, Philadelphia reported 135 flights per day.

Second Floor (*right*). This level is almost wholly for passengers' and visitors' use. The stair and moving stairway from the first floor arrive at the center of the long ticketing area; immediately across are another stair and moving stairway to the third-floor lounge and restaurant. On the field side are the main waiting room, a coffee shop, a drug store, and other concessions. Along the north wall are public toilets, barber and beauty shops, and roomettes for men and women. The upper levels of the fingers provide direct and sheltered access to stairs leading down to plane-loading positions. In the west wing on this floor is the international section, including health, immigration, and customs divisions of the federal government. Enplaning international passengers proceed along the north corridor to the stair tower at the end of the building that leads down to the international plane stations. Deplaning international passengers come up these stairs, pass through the three governmental departments, and, after being checked and approved, claim baggage in the customs area and exit through doors near the base of the west finger into the regular passengers' concourse.

Notice the switchback ramp for visitors, near the east end of the front of the building. Visitors may walk up this ramp, enter the passengers' area at the halfway landing, or proceed, after passing through turnstiles, to the rooftop observation deck.



Second Floor Plan

At the center of the long passenger-ticketing concourse (above), *opposite the top of the moving stairway and stair from the first-floor lobby, another stair and moving stairway lead up to the third-floor lounge and restaurant.*

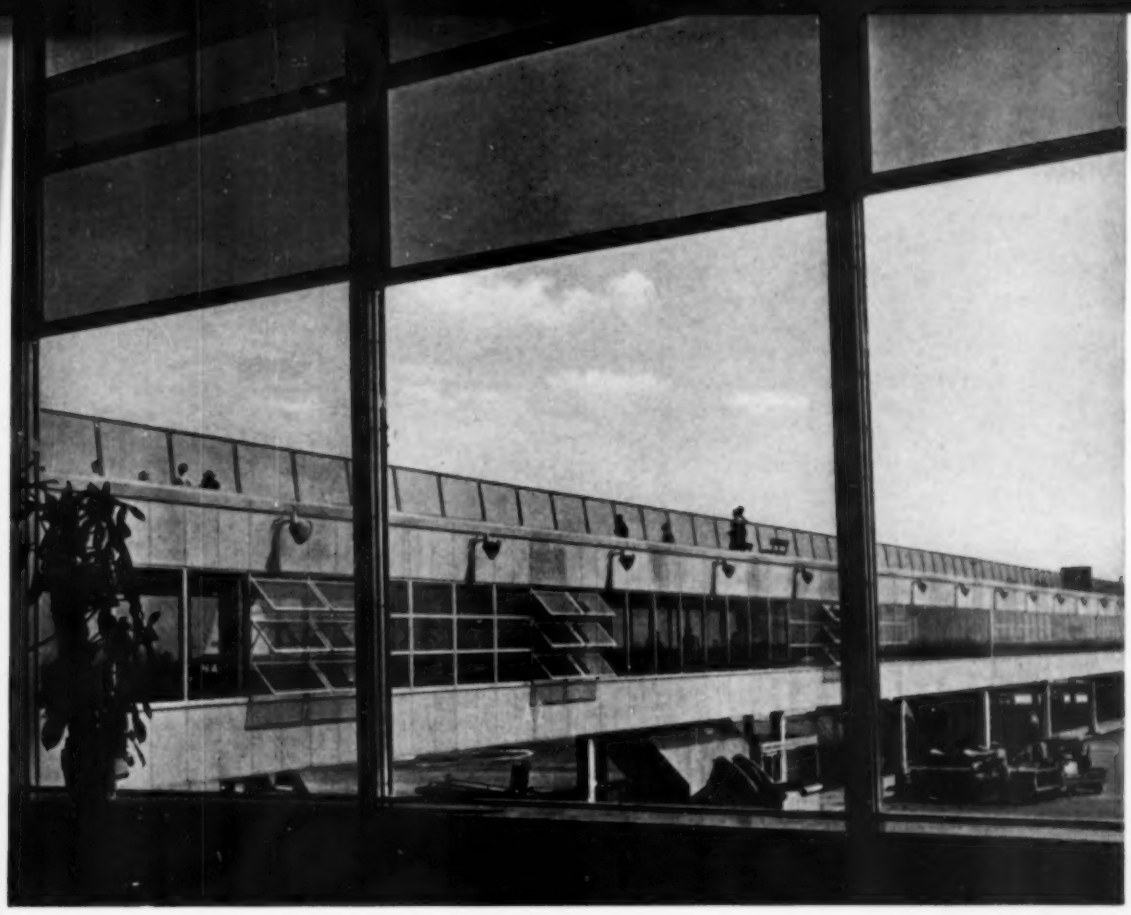
The terra-cotta-walled main waiting room (right) *is on the field side of this floor.*

For a moderate-priced meal, a coffee shop (below) *is provided. The first-floor central kitchen serves all eating rooms in the terminal.*

Photos right and below: Joseph W. Molitor

More conveniently located than most big-city airports, the Philadelphia International is but 17 minutes via major highways, from the metropolitan center. The passengers' progress after arriving at the port is equally swift. A moving stairway (or a broad stair) takes him immediately to the second floor. Ticket counters for the various lines confront him at both right and left of the landing; and along the facing wall of the concourse are the non-scheduled-flight counters; a drive-yourself car-rental counter; insurance sales, etc. Further along the concourse are a drug store, beauty parlor, barber shop, toilets, and numerous other concessions.

For use of stranded or long-stopover passengers, 12 air-conditioned roomettes



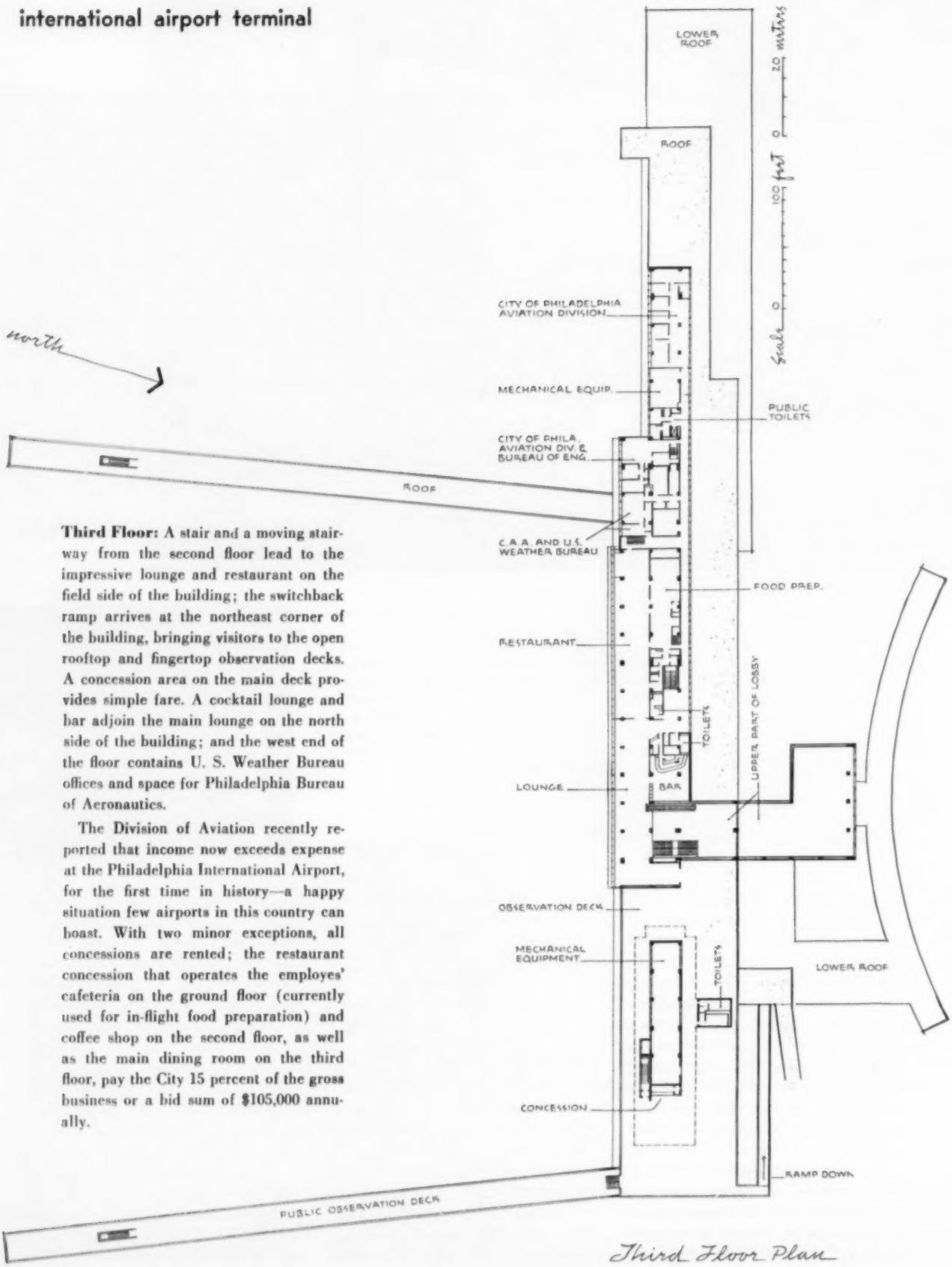
The two finger concourses extend some 500 ft onto the field and are bordered by plane stations. Roof of the finger on the east (above) *is used as a visitors' observation deck (admission: 10 cents). The open ground-floor level speeds the movement of baggage and other services; from the passengers' enclosed second-floor level* (right), *stairways lead down to the field. When expansion is necessary two more fingers are planned—one at the east end of the terminal; the other on the west.*

are provided for men (near the barber shop) and 12 for women (next to the beauty parlor). Only 24 were provided, as the City felt it should not compete with downtown hotels. While these units are much used, hotel experts tell the architects that to insure a profitable operation, a minimum of 50 to 75 rooms should be provided. Studies are now progressing for providing added facilities. At the far west end of this passenger level is the international section, with U. S. Customs and Immigration offices.

After tickets are purchased, and baggage is weighed and chuted to the first-floor baggage area, passengers proceed to the long waiting room on the field side of the building; here, wall-height windows provide full view of field operations. At the west end of this room is a coffee shop, offering both counter and table service and a small, standup bar.

When the passenger's flight is announced, he proceeds along one of the two fingers to the indicated plane station and so, down a flight of aluminum, enclosed stairs, to the field. Deplaning passengers follow much the same route in reverse—up the stairs near the landing station (baggage goes by gasoline dolly along the ground-level of the finger to the baggage-claim counter in the main building), along the finger to the passenger concourse, and down one of two stairways.

The initial plan contemplated use of a retractable, enclosed gangplank mechanism, developed by Airways Engineering Corporation, to channel passengers, wholly under cover, onto and off of planes. This device would have fed from the upper level of the finger concourse, thus obviating the need of passengers to descend to the apron level. The ingenious mechanism can aim its gangplank tube in any direction (within 180 degrees) and angle it to whatever height the plane requires. Then, by telescoping, it can reach out from its retracted length of 51 ft up to its maximum length of 93 ft. Budgetary considerations unfortunately made it necessary to discard this scheme. Currently, use of moving stairways from the ground to second floor of the fingers is being explored.



Third Floor Plan

Third Floor: A stair and a moving stairway from the second floor lead to the impressive lounge and restaurant on the field side of the building; the switchback ramp arrives at the northeast corner of the building, bringing visitors to the open rooftop and fingertop observation decks. A concession area on the main deck provides simple fare. A cocktail lounge and bar adjoin the main lounge on the north side of the building; and the west end of the floor contains U. S. Weather Bureau offices and space for Philadelphia Bureau of Aeronautics.

The Division of Aviation recently reported that income now exceeds expense at the Philadelphia International Airport, for the first time in history—a happy situation few airports in this country can boast. With two minor exceptions, all concessions are rented; the restaurant concession that operates the employes' cafeteria on the ground floor (currently used for in-flight food preparation) and coffee shop on the second floor, as well as the main dining room on the third floor, pay the City 15 percent of the gross business or a bid sum of $105,000 annually.

mechanical engineering

All public spaces, concession areas, and office spaces are served by year-round air-conditioning systems. A total of 29 air-handling systems, most of which are the vertical cabinet industrial type, condition the air. Each system is equipped with a spray pump, metal viscous high-velocity filters, preheat coils of the steam distributing tube type, six- or eight-row chilled-water cooling coils, and reheat coils.

Air is conducted through ductwork at conventional velocities and distributed by adjustable pattern ceiling diffusers and double deflection sidewall grills.

All heating is accomplished with forced hot water and is divided into 10 zones. Hot-water converters and circulating pumps are located in four mechanical rooms on the first floor. The main entrance lobby and the airlines operation offices on the ground floor are heated with radiant-panel floor slabs. All other public areas and offices are heated with continuous finned-tube radiation enclosed in specially designed aluminum enclosures. Freight and warehouse areas are heated with conventional propeller-type unit heaters.

A snow-and-ice melting system using circulated hot water with antifreeze is a feature of the outside ramp design. Such a system permits year-round use of the ramp by visitors.

Temperature and humidity control of heating, ventilating, and air conditioning is pneumatic.

electrical design

The electrical distribution system was designed to handle approximately 15,000 kva of ultimate capacity. Distribution is at 13,200 volts for all lighting and power except for the air-conditioning compressers which operate from a 3-phase 4-wire 2400/4160 volt spot network system which in turn is supplied at the primary voltage. The heating plant is served by two 300 kva network transformers and protectors by an outdoor substation. Secondary voltage is 125/216—in keeping with present distribution trends. The emergency electric generating system automatically starts upon the failure of either of the two primary feeders.

To provide for adequate voltage regulation, four transformer vaults were installed and in lieu of there being a switchboard at each vault, a continuous sectionalized 1600 ampere, 3-phase, 4-wire bus-duct system throughout the length of the Terminal Building and fingers was specified. This bus-duct system is similar to an elongated switchboard hung from the ceiling and offers great flexibility.

The lighting offered no particular problem and, in general, the recommendations published by the Illuminating Engineering Society were followed. The fingers offered an excellent opportunity for floodlighting the apron. As a result of consultations with various airlines, a light intensity of about ½ fc was provided over the entire loading apron.

The public-address system was arranged not only for dissemination of information to the traveling public but also arranged to record historical city functions that could take place in the Terminal Building. Remotely-operated flight announcement boards were arranged for simultaneous posting of flight information at several locations.

special credits

In addition to the names listed on the opening page of this presentation, the architects have asked that special credit be given to the following:

C. PRESTON ANDRADE, JR., a former Carroll, Grisdale & Van Alen partner who was very actively connected with the project until called upon for Navy research.

FRED SAVAGE, who was in charge of the administration of the work in the office during construction.

JACK MCKINLEY, of D'Ambly's office, who was in charge of the mechanical design.

ELISHA SAFFORD, JR., resident architect, who lived with the job on the site.

JOHN MCSHAIN, INC., general contractor.

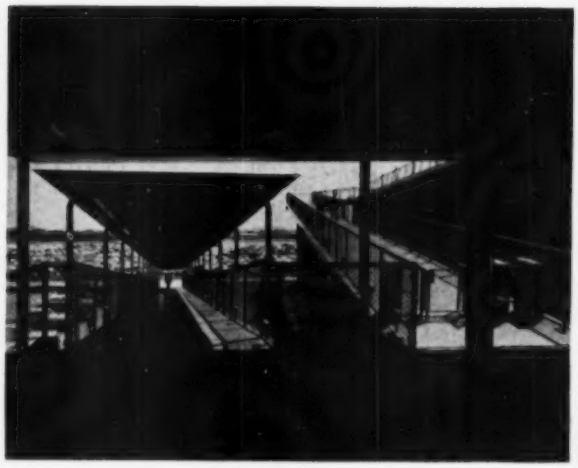
AMBROSE-AUGUSTERFER CORP., heating, ventilating, and air-conditioning contractor; H. P. FOLEY CO., electrical contractor; L. E. WINTER CO., INC., plumbing contractor; STANDARD CONVEYOR CO., baggage-handling contractor; GROVER TRANSITUBES CO. OF N. Y., pneumatic tube contractor.

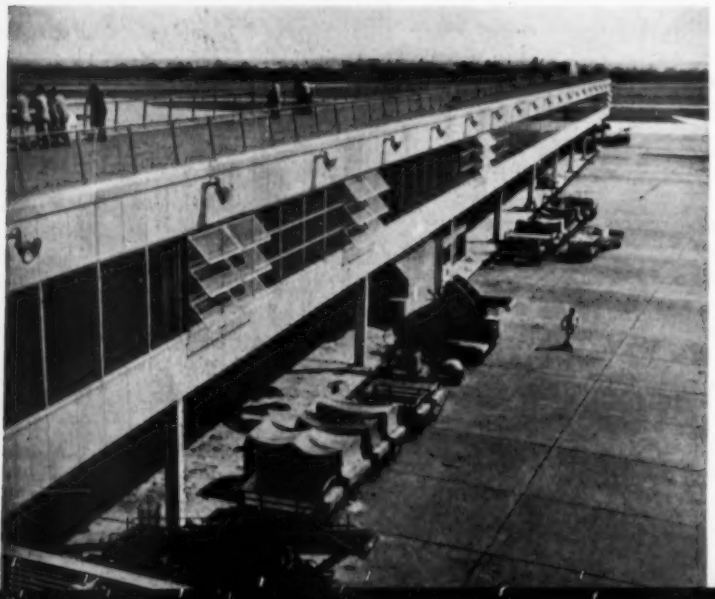
Progress photographs of fingers show foundation slabs (top), *tunnel under east finger* (middle), *and framing method* (bottom).

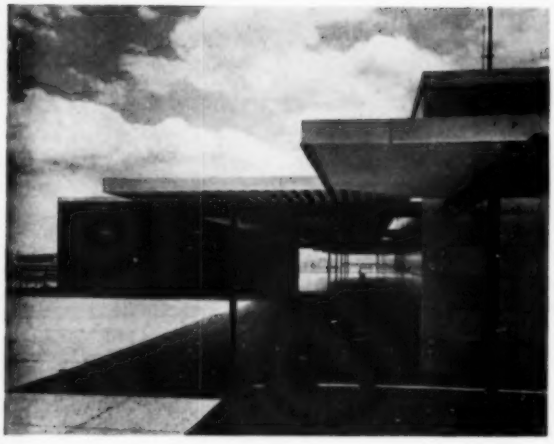
international airport terminal

Passengers and visitors alike use the striking, third-floor restaurant (above) *that looks out on both the field and the sky. The aluminum sash along the south wall of the terminal are glazed with double-insulating glazing, one layer of which is of heat-resistant glass. The restaurant is carpeted; upper walls across from windows are finished with mahogany plywood panels drilled with 1 in. holes in a regular pattern; panels on lower areas are plastic surfaced.*

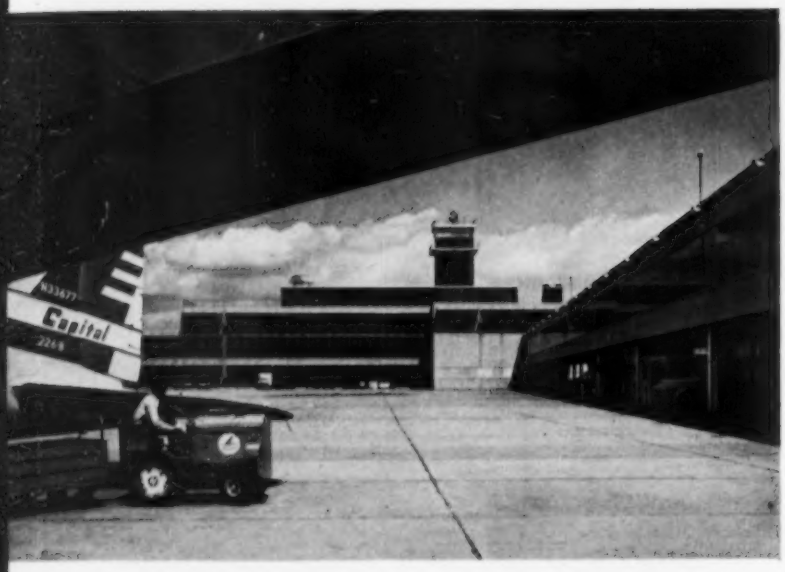
Visitors may reach the fingertop observation deck (below) *by a switchback ramp* (right) *that leads up from the parking field at the front of the building.*



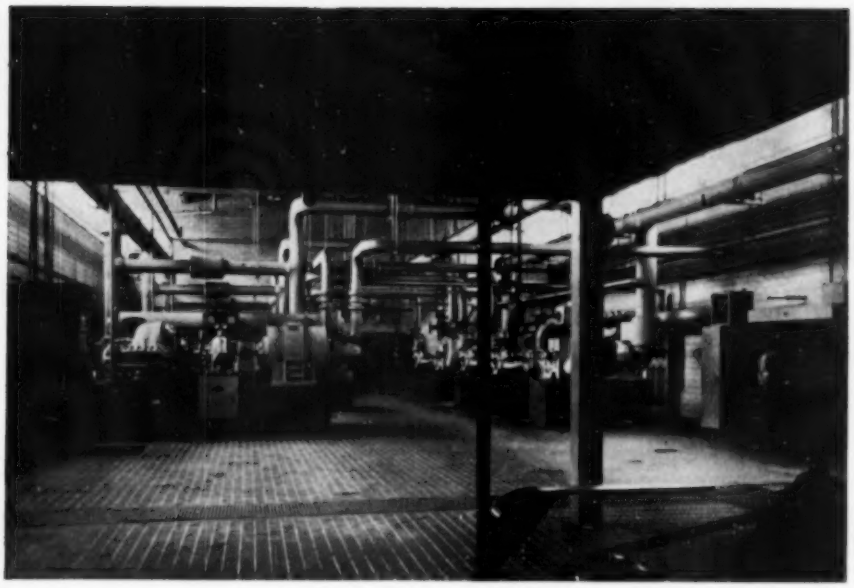




The exposed materials of which the terminal is built provide their own agreeable color scheme—the pink of the brick; aluminum sash and spandrel areas; and certain elements, like the exterior of the control tower (above) *or a wall of the rooftop food concession* (left), *highlighted with deep blue terra cotta. The blue-green of the extensive glazed areas adds sparkle.* Photo above: Joseph W. Molitor



On the field side of the terminal (top left *and* immediately below), *baggage moves by dollies along the open field-level of the finger concourses back along the dolly concourse inside the main building* (left) *and through flap openings to the baggage-claim counter* (bottom). *Projecting aluminum sunshades and structural eyebrows above the southern windows facilitate window maintenance.*



In a separate one-story structure, northwest of the main building is the power house (above) *connected to the main structure by a service trench. Similar materials and colors join the two visually.*

Materials & Methods

construction

Foundation, floors, walls, roof: foundation: spiral steel shell (concrete filled)—Western Foundation Corporation; reinforced-concrete floors and roof: reinforcing steel—Sweet's Steel Company, cement—Allentown Portland Cement Company, Dragon Cement Company, Giant Portland Cement Company, and Lehigh Portland Cement Company; structural-steel frame—Bethlehem Steel Company; steel roof deck—H. H. Robertson Company; masonry walls. **Wall surfacing:** exterior: face brick—McArthur Brick Company; interior: structural tile—Claycraft Company, glazed terra cotta—Federal Seaboard Terra Cotta Corporation; rest rooms: ceramic tile—Sparta Ceramic Company. **Floor surfacing:** cork tile—Kentile, Inc.; red shale brick—Summitville Face Brick Company; rubber tile—The B. F. Goodrich Company. **Ceiling surfacing:** acoustical tile—National Gypsum Company, Inc.; plaster—United States Gypsum Company. **Roof surfacing:** four-ply built-up roof—Koppers Company, Inc. **Coping, flashing, waterproofing:** stone coping—Alberene Stone Corporation of Virginia; spandrel flashing—Wasco Flashing Company; metallic iron and cement waterproofing—Aquabar Company; dampproofing—L. Sonneborn Sons, Inc.; five-ply membrane waterproofing—Koppers Company, Inc. **Insulation:** acoustical: acoustical tile—National Gypsum Company, Inc.; thermal: cellular-glass insulation—Pittsburgh Corning Corporation. **Roof drainage:** aluminum gutters and downspouts; roof and floor drains—Josam Manufacturing Company. **Partitions:** interior: solid plaster—United States Gypsum Company; toilet: marble—Vermont Marble Company. **Windows:** aluminum sash and store fronts—Flour City Ornamental Iron Company; aluminum sash (boiler plant)—E. K. Geyser Company; plate and insulating glass—Pittsburgh Plate Glass Company; glass-block skylights—J. Merrill Richards. **Doors:** interior: hollow metal—Atlantic Metal Products Company, and aluminum; rolling steel overhead doors—The J. G. Wilson Corporation; steel elevator doors—Guilbert, Inc.; aluminum entrance doors. **Hardware:** aluminum lock sets and steel door closers—The American Hardware Corporation, Russell & Erwin Division; aluminum floor-type door-closers—The Oscar C. Rixson Company; stainless-steel hinges—The Stanley Works; steel rolling-door hardware—The J. G. Wilson Corporation; chrome-finish coin locks—Universal Coin Lock Company; toilet-door hardware—Chicago Spring Hinge Company.

equipment

Kitchen: stainless steel—W. F. Dougherty & Sons. **Intercommunication:** Automatic Electric Company. **Time system:** International Business Machines. **Public address:** Western Electric Company, Radio Corporation of America, Electro-Voice, Inc., J. P. Seeburg Corporation, Jensen Manufacturing Company. **Public seating:** public lounges—Edgewood Furniture Company, Inc.; coffee shop—Thonet Industries, Inc. **Turnstiles:** steel with stainless-steel trim—Perey Turnstile Company. **Elevators:** freight elevator hoisting equipment and cab—Rotary Lift Company; stainless-steel dumbwaiters—Sedgwick Machine Works, Inc. **Moving stairway:** aluminum—Otis Elevator Company. **Lighting fixtures:** concourse and public lounge: Pittsburgh Reflector Company, Day-Brite Lighting, Inc., Elco Products, Inc., A. L. Smith Iron Company, Smithcraft Lighting Division; storage: Wheeler Reflector Company; office and concessions: Elco Products, Inc., Swivelier Company, Klemm Reflector Company, Century Lighting, Inc., Gotham Lighting Corporation; stairs: The Perfeclite Company, Elco Products, Inc., Wheeler Reflector Company, Crouse-Hinds Company; rest rooms: Pass & Seymour, Inc., Elco Products, Inc.; outdoor: Crouse-Hinds Company, The Perfeclite Company, Russell & Stoll Company, Inc.; floodlights: Revere Electric Manufacturing Company, Crouse-Hinds Company. **Electrical distribution:** service entrance switch—General Electric Company; duct system: bus—The Electrical Manufacturing Company, underground—Orangeburg Manufacturing Company, Inc. underfloor—Walker Bros.; panelboards—Trumbull Electric Department of General Electric Company; panelboard trim and multibreaker—Penn Panel & Box Company; multibreaker switch—Roller-Smith; transformers—General Electric Company; wire and cable—Collyer Insulated Wire Company, General Cable Corporation, National Electric Products Corporation; generating plant: Diesel engines—National Supply Company, generators—Electric Products Company; oil switches—General Electric Company, G & W Elec. Specialty Company. **Plumbing and sanitation:** sinks, lavatories, water closets—American Radiator & Standard Sanitary Corporation; toilet seats—Olsonite Plastics Division, Swedish Crucible Steel Company; water heaters—Philadelphia Electrical & Manufacturing Company; flush valves and showers—Speakman Company; sewage grinder—The Jeffrey Manufacturing Company; drinking fountains—Westinghouse Electric Corporation; pipe: copper—Chase Brass & Copper Company, Inc., galvanized iron—A. M. Byers Company, black steel—National Tube Company; shower bases—Fiat Metal Manufacturing Company; hot-water circulating pumps—Chicago Pump Company. **Heating:** forced hot-water system: boilers—Ames Iron Works, Inc.; convectors—Warren Webster & Company; black-steel piping—Ford & Kendig Company; unit heaters—American Blower Corporation; controls—Johnson Service Company. **Air conditioning:** refrigerant: Freon 12—E. I. du Pont de Nemours & Co. (Inc.); compressor—Carrier Corporation; grills—Tuttle & Bailey, Inc.; diffusers—Anemostat Corporation of America; blowers—American Blower Corporation; filters—Farr Company; cooling coils—Lilie-Hoffman Cooling Towers, Inc.; controls—Johnson Service Company.

How Ceco-Meyer steelform construction cut floor weight 40%

Steelforms are quickly installed on open wood centering. Cost is reduced because the same lumber and Steelforms are re-used from floor to floor.

Shaded portions show concrete eliminated by concrete joist construction.

Ceco's rugged 1½" Intermediate Projected steel windows are made to outlast any structure. Combined weight of frame and ventilator members not less than 3.6 pounds per lineal foot.

In construction products CECO ENGINEERING makes the big difference

CECO 1½" INTERMEDIATE WINDOWS PROVIDE BETTER DAYLIGHTING—OUTLAST ANY STRUCTURE

When Karl Keffer Associates, architects, designed the Charles Evans Junior High School in Ottumwa, Iowa, they faced exacting requirements:

> The structure had to provide all instructional units, plus shops, lunch room and auditorium for a minimum of 875 students . . . plus a gymnasium for a seating capacity of 4,500 . . . and this had to be done on a rigid budget.

Ceco-Meyer Steelform Construction was selected as the best way to span the 22′ to 24′ wide rooms . . . a natural choice by architects for thousands of schools. The method eliminates beams, thus allowing a flat ceiling for all rooms. Rigidity and soundproofing are provided . . . plus a saving of 40% in dead load over other types of reinforced concrete. Since Steelforms are quickly placed and removed, pouring of concrete is speeded, with weeks of construction time saved. Total cost of the Evans School was only $12.13 per sq. ft. When it came to windows, Ceco's 1½" Intermediates got the call. Heavy 1½" sections assure smooth operation and long life. Maintenance is negligible. Large glass lights provide open view . . . controlled daylighting guards pupils' eyesight. As on thousands of projects, Ceco supplied the Reinforcing Steel on schedule . . . Ceco Integrated Service brought all products to Contractors Ringland-Johnson, Inc., as needed. Result . . . a better structure . . . building budget balanced. Here is another example of Ceco performing on the Architect-Contractor-Supplier team. Ceco Product Specialists help you save through product engineering. Consult Sweet's File for address. CECO STEEL

CECO STEEL PRODUCTS CORPORATION
Offices, warehouses and fabricating plants in principal cities. General Offices: 5601 W. 26th St., Chicago 50, Ill.

by Ben John Small

spec small talk

Dorotheum

The New York Chapter of the American Institute of Architects held its special 85th anniversary celebration in New York's Metropolitan Museum of Art. This venerable institution now boasts of a dining room decorated elegantly by Dorothy Draper. The folks around the museum have dubbed it the "Dorotheum."

hangover

I almost lost a client because of a blank expression on my physiognomy. I asked him what type of architecture he preferred for his proposed home. He replied he did not care particularly as long as it had a "hangover." This is where the blank look came in. Any darn fool architect would know he meant a ranch type home complete with an *overhang*.

hm-m-m

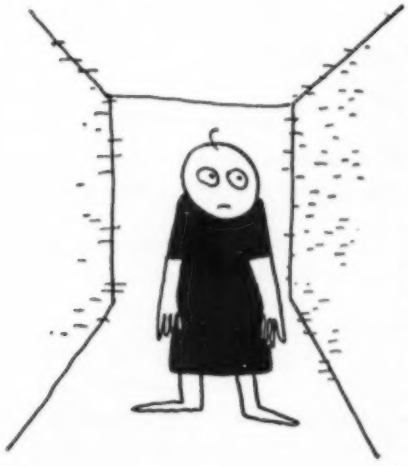
I am not class conscious but one of my gears fell off when I read that *House & Garden* in connection with their special trade edition offers their 50 percent rate to architects and *florists*. Res ipsa loquitur.

roll 'em

I don't know where all this is leading to but I hear that the metal-furring trades refuse to handle cold-rolled steel channels. They insist on hot-rolled. What next, tepid-rolled?

prickly partitions

In a school we recently completed, I asked the custodian how he managed to keep the painted concrete-masonry-unit partition in the corridor so clean looking. He replied that the youngsters had only to touch the partition once, found it mighty uncomfortable, and shied clear thereafter. An unexpected windfall, eh?



literature competition

One of the best things that ever happened to building product literature in general is the intravenous injection given it jointly by Drs. A. I. Architects and P. Council. The good influence of these doctors has been demonstrated clearly by the superior quality of this year's submissions. Last April, the Jury (Richard M. Bennett, Edward G. Conrad, D. Kenneth Sargent, Howard Dwight Smith, and I, as chairman) spent several days at the trying task of selecting winners. I made these notes in April, and the results of the competition were made known in June at the AIA convention. You probably have seen the list of winners, and should I pass to the great beyond by the time you read this, please re-examine the winners (in my memory) and see if you agree with our judgment. When we examined the gross of entries we kept thinking of the criteria: completeness, organization of material, convenience of reference, attention arresting quality, informational and educational, directed to architects and so on. Try it yourself before you file that piece of literature under "garbage." The very least you can do is to write its father and tell him what you think. Perhaps papa will improve if he knows more about your point of view. And perhaps papa will ask his ad men to look at the AIA-PC criteria before leaping into print. Perhaps.

Tom makes good

If you promise not to tell Tom Creighton, I will happily share a small secret with you. I like my job here at P/A but alas, I have no tenure. I cannot sleep nights with the ugly threat of insecurity dangling over my dome. I have a small family and a fat cat to support and things just cannot go on. Pardon a moment whilst I wipe the tears away. Well, sir, in order to batten down this job, I had to butter up the boss. Today, Tom is the only living (he is five—count 'em—decades old) Honorary Member of The Construction Specifications Institute, Inc., Metropolitan New York Chapter. Tom has done a good deal to promote interest in better specifications, and the Chapter thought he should be so recognized. At our annual dinner, we also honored Willard H. Barrows, free-lance specification writer of New York, and Philip L. Fogarty of Devoe & Raynolds for meritorious service to the Chapter. There were many ladies present, for whose benefit I thought it well to define the meaning of specifications as follows:

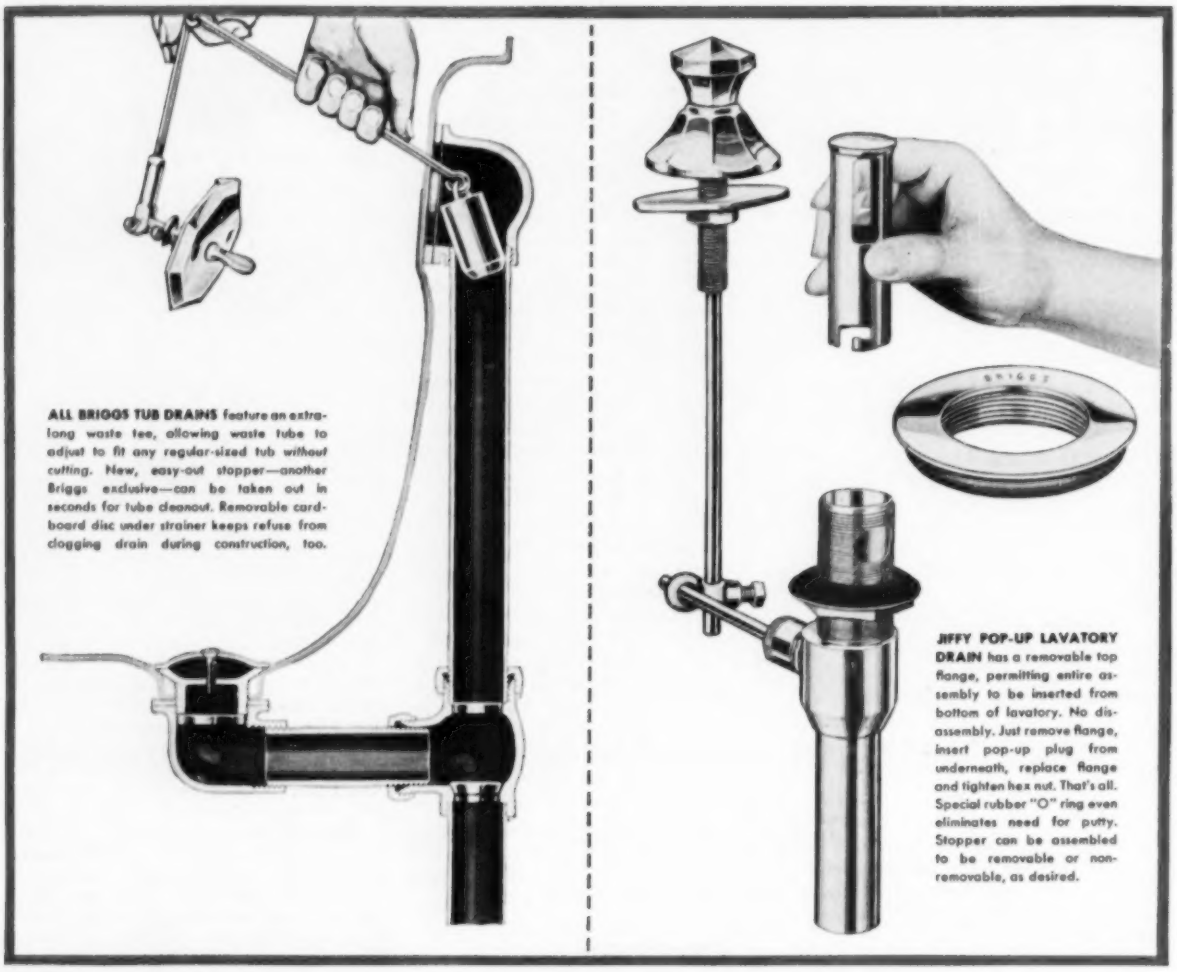
"A specification is something an architect should have had ready last week. A specification to a speculative builder is a collection of as few words as necessary ar-

ranged in a manner to satisfy the requirements of lending agencies. A specification to an old-timer is something written on the back of an envelope over the weekend. A specification for the government is a collection of words designed to tell an inferential story and wherein the use of proprietary names is subject to investigation. A specification to an architect on a limited fee is considerably less than a thing of beauty. A specification to a free-lance specification writer keeps the overhead in shape. A specification to a lawyer for the opposition makes better reading to him than the Kinsey report. A specification to the contractor's superintendent, if heavy enough, keeps the prints from blowing away in a high wind. A specification written by someone else cannot be much good. Specification in an architectural school is an obscene word. An excellent specification is one accompanied by a contractor who does not request extras—a poor specification is the reverse. A superb specification to a building product manufacturer always excludes the competition. A streamlined specification is a traditionally written specification with the articles "a," "an," and "the" furnished, without cost, by the reader. A preliminary specification is a final specification written by a novice. A final specification is one where someone other than the author takes the full responsibility. A specification prepared by "package organizations" (those firms who do under one leaky roof architecture, engineering, construction, purchasing, management, etc.) is a study in understatement."

The ladies present hardly snickered. Down with women, or approved equal! Harold R. Sleeper, FAIA, made some interesting observations concerning the birth of specifications. He simply read portions of the Bible; even the word specifications appears therein.

odd minds

If I had a word-of-one-syllable department, I would apply it to Given Raverat's book *Period Piece* wherein she says on p. 37, "But what very odd minds architects do have."



ALL BRIGGS TUB DRAINS feature an extra-long waste tee, allowing waste tube to adjust to fit any regular-sized tub *without cutting*. New, easy-out stopper—another Briggs exclusive—can be taken out in seconds for tube cleanout. Removable cardboard disc under strainer keeps refuse from clogging drain during construction, too.

JIFFY POP-UP LAVATORY DRAIN has a removable top flange, permitting entire assembly to be inserted from bottom of lavatory. No disassembly. Just remove flange, insert pop-up plug from underneath, replace flange and tighten hex nut. That's all. Special rubber "O" ring even eliminates need for putty. Stopper can be assembled to be removable or non-removable, as desired.

Engineering features like these make BRIGGS drains work better, wear longer

All Briggs plumbing ware is designed and built to please customers . . . eliminate call backs

If you've ever used Briggs plumbing ware, *you know!* . . . it's the best designed, most dependable brand of all.

Two examples of *why* are shown above, and we've listed a few more at the right. Needless parts have been eliminated at no sacrifice in quality. Assemblies have been engineered to make installations simpler. All parts have been pre-tested to fit right, work right . . . give lasting customer satisfaction.

Order Briggs Beautyware. You'll profit from its quality.

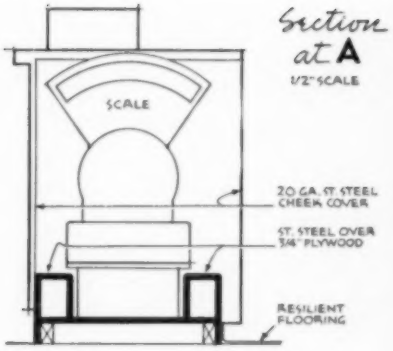
OTHER ENGINEERING FEATURES

- Closet combination with only 2 bolt holes for fast, neat installations
- Leg and towel bar attachment with quick-fitting, key-slot design.
- Rigid-frame tub construction makes it free-standing . . . needs no wall support
- Wall-surface tub and shower fitting really fits . . . solders easily

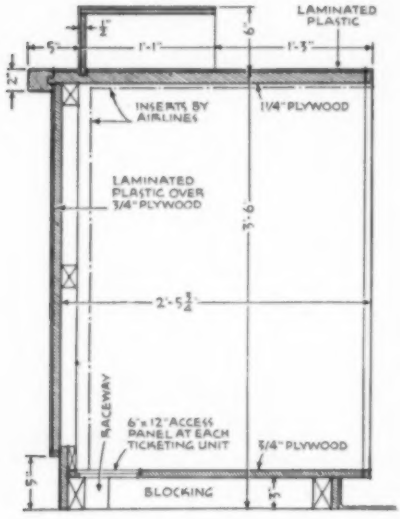
©1954

BRIGGS MANUFACTURING COMPANY • DETROIT 26, MICHIGAN

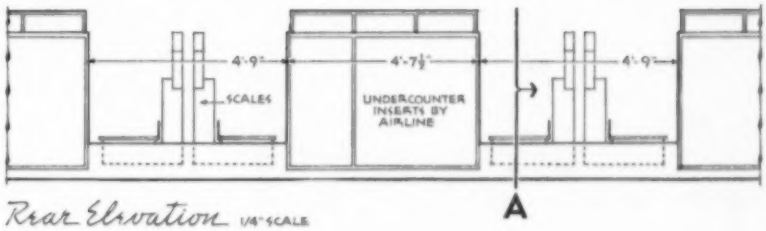
BRIGGS



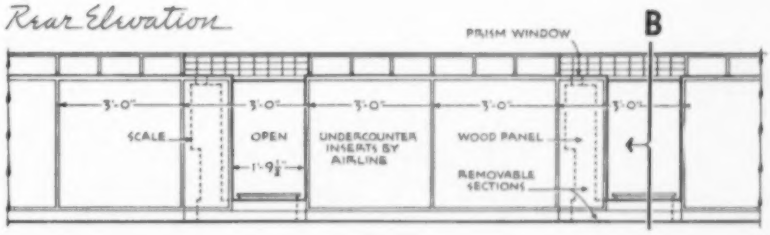
ALFRED A. DE LARDI PHOTOS

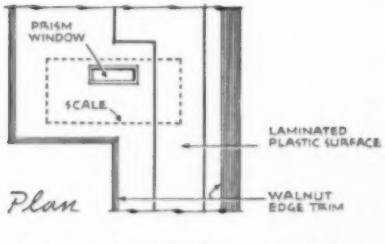


Shell Section 3/4" SCALE

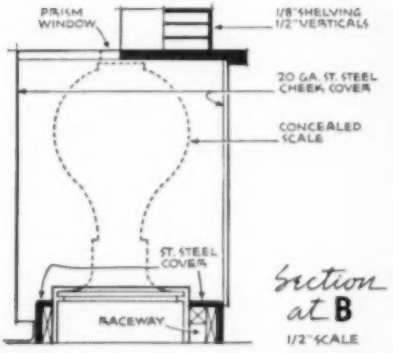


Rear Elevation 1/4" SCALE





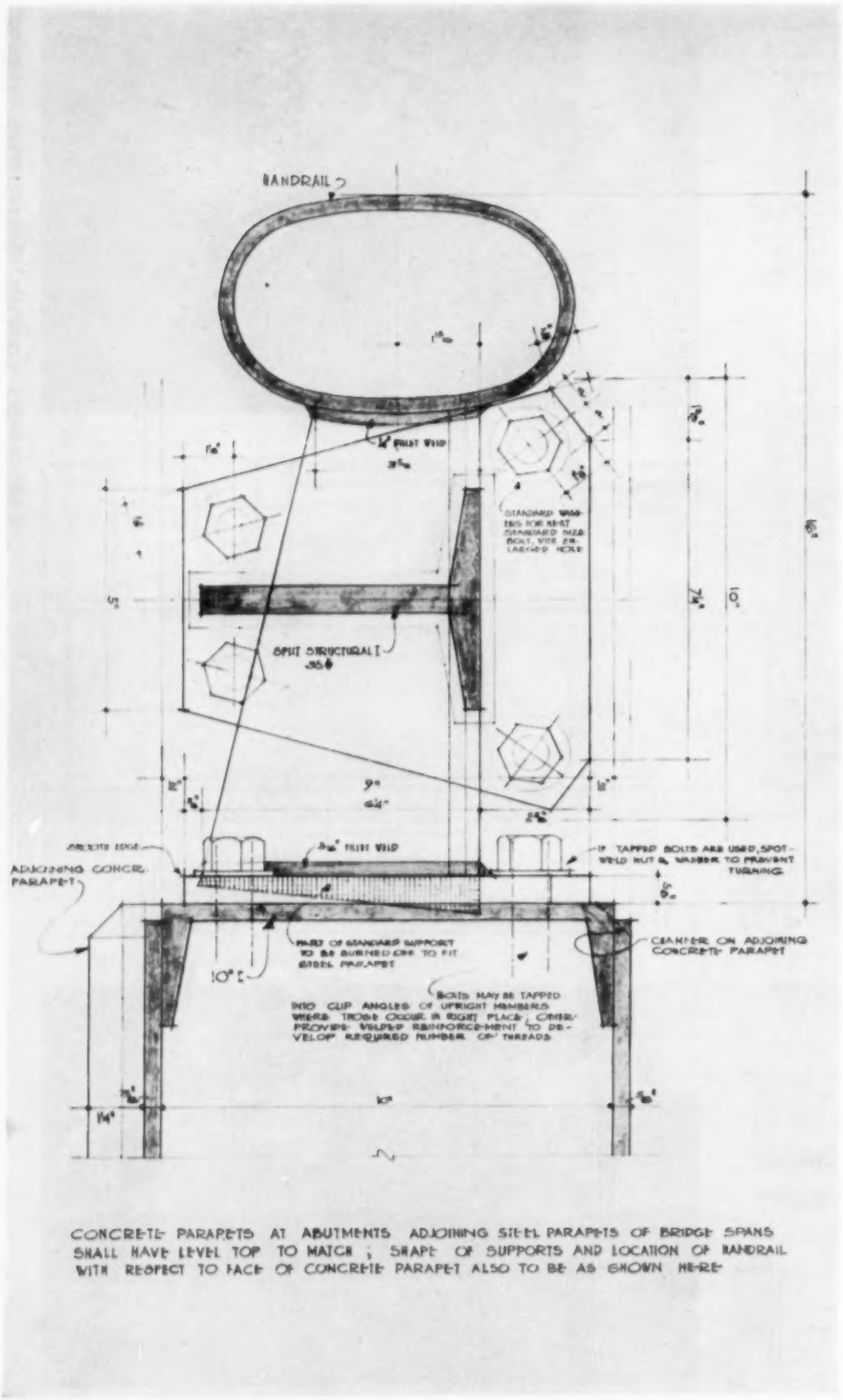
Plan



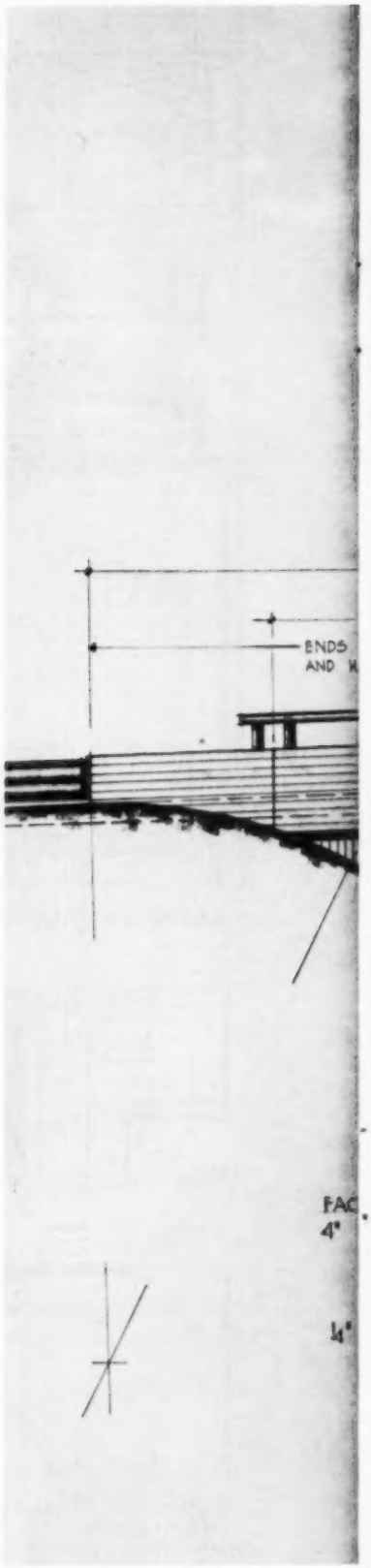
Section at B
1/2" SCALE

PHILADELPHIA INTERNATIONAL AIRPORT TERMINAL, Philadelphia, Pa.

Carroll, Grisdale & Van Alen, Architects

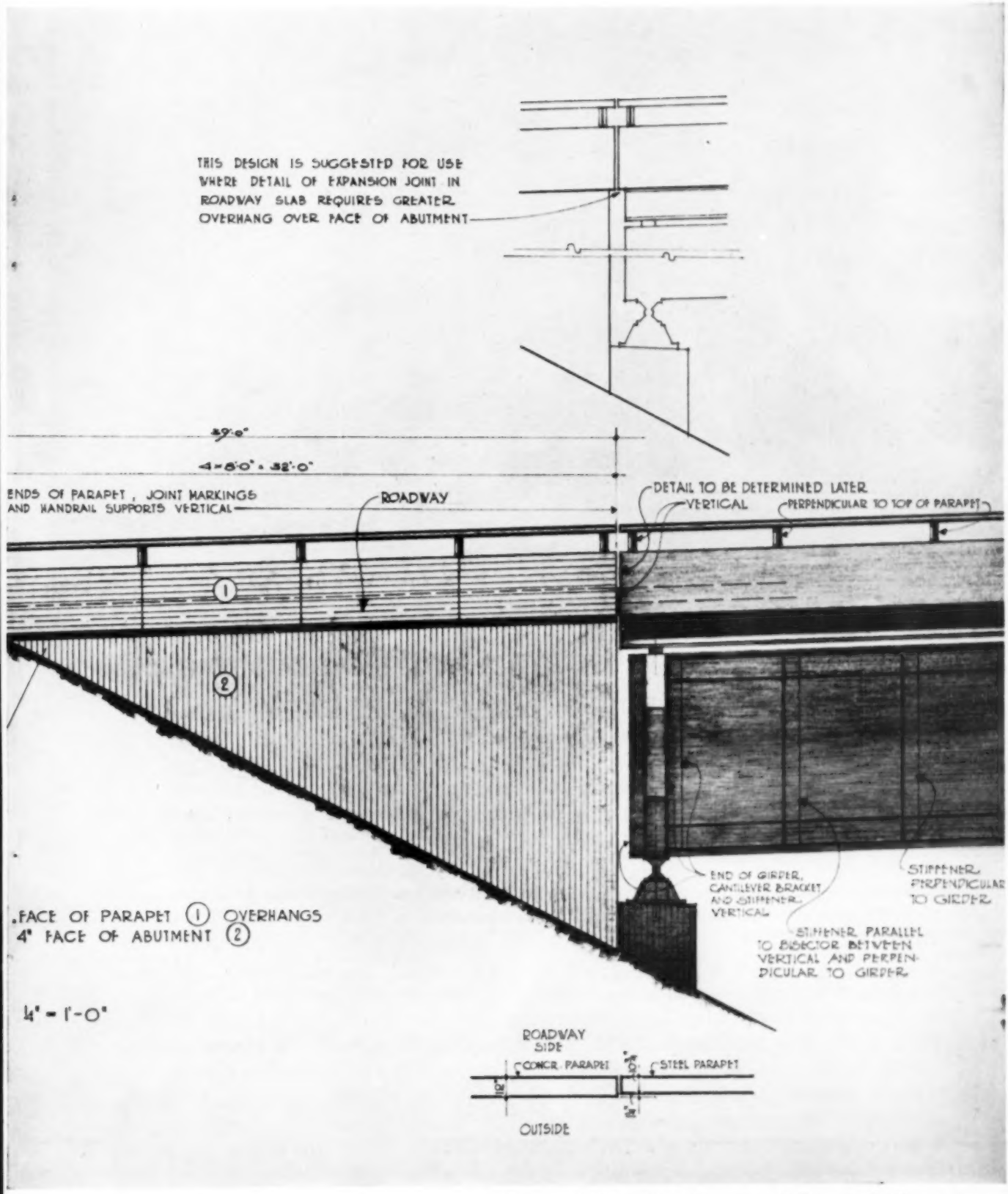

HANDRAIL
STANDARD WASHERS FOR RIVET STANDARD HEAD BOLT, USE ON LACKED HOLE
SPLIT STRUCTURAL I
ADJOINING CONCR. PARAPET
IF TAPPER BOLTS ARE USED, SPOT-WELD NUT & WASHER TO PREVENT TURNING
CRAMMER ON ADJOINING CONCRETE PARAPET
BOLTS MAY BE TAPPED INTO CLIP ANGLES OF UPRIGHT MEMBERS WHERE THOSE OCCUR IN RIGHT PLACE; OTHER-PROVIDE WELDED REINFORCEMENT TO DE-VELOP REQUIRED NUMBER OF THREADS

CONCRETE PARAPETS AT ABUTMENTS ADJOINING STEEL PARAPETS OF BRIDGE SPANS SHALL HAVE LEVEL TOP TO MATCH ; SHAPE OF SUPPORTS AND LOCATION OF HANDRAIL WITH RESPECT TO FACE OF CONCRETE PARAPET ALSO TO BE AS SHOWN HERE

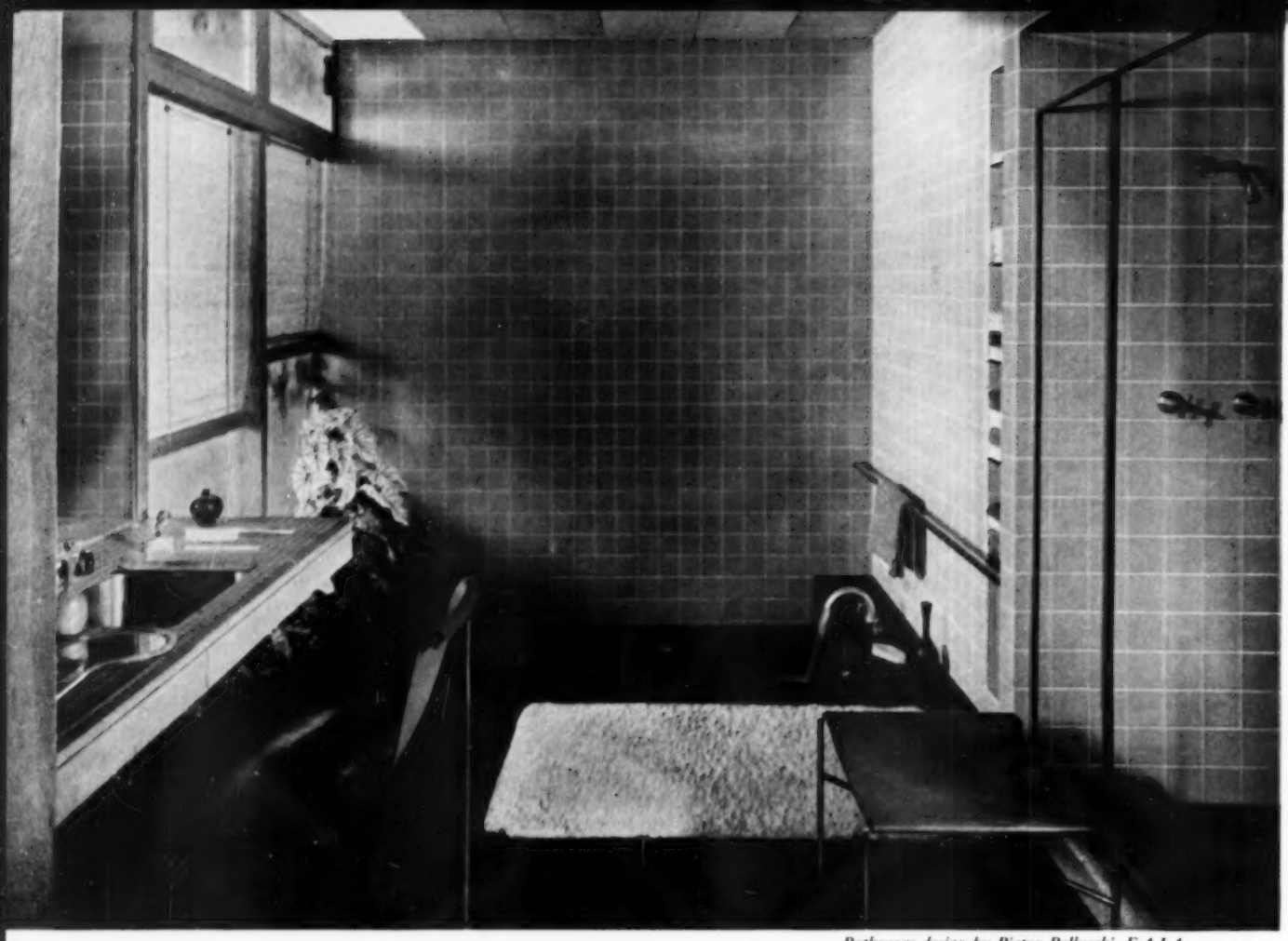


bridge: Hackensack River Crossing, New Jersey Turnpike

Fellheimer & Wagner, architects


THIS DESIGN IS SUGGESTED FOR USE WHERE DETAIL OF EXPANSION JOINT IN ROADWAY SLAB REQUIRES GREATER OVERHANG OVER FACE OF ABUTMENT
59'-0"
4 - 8'-0" = 32'-0"
ENDS OF PARAPET, JOINT MARKINGS AND HANDRAIL SUPPORTS VERTICAL
ROADWAY
DETAIL TO BE DETERMINED LATER
VERTICAL
PERPENDICULAR TO TOP OF PARAPET
1
2
END OF GIRDER, CANTILEVER BRACKET AND STIFFENER VERTICAL
STIFFENER PERPENDICULAR TO GIRDER
STIFFENER PARALLEL TO BISECTOR BETWEEN VERTICAL AND PERPENDICULAR TO GIRDER
FACE OF PARAPET (1) OVERHANGS 4" FACE OF ABUTMENT (2)
4" = 1'-0"
ROADWAY SIDE
CONCR. PARAPET
STEEL PARAPET
OUTSIDE

Howard, Needles, Tammen & Bergendoff, engineers



Bathroom design by Pietro Belluschi, F.A.I.A.

"CLAY TILE...AN IDEAL MEDIUM FOR MODERN DESIGN... OFFERS LASTING BEAUTY, EASY CARE"

Pietro Belluschi

Here, in clay tiles of contrasting grays and black, is architect Pietro Belluschi's conception of a modern bath . . . a combination of standard clay tiles and stimulating modern design.

The spacious clay tiled countertop, which doubles as a vanity, can be easily adapted for dual sinks to ease "traffic congestion". And through years of wear and tear, clay tile will remain bright and beautiful with minimum effort.

Clay tile beautifies and protects other key spots like the plunge area, the roomy towel storage niche, the shower walls, floor and ceiling and, of course, the entire floor surface.

The style and design possibilities of clay tile enable you to give your clients a custom effect with standard clay tiles. When you start your next commercial, institutional or residential project, remember this: clay tile's range of colors, shapes and types give you the widest scope of any modern building material.

You can tell your clients, too, that clay tile never fades, burns, stains or needs refinishing. Specify clay tile and you specify beauty and long range economy. You spread the cost of a clay tile installation over a lifetime!

Tile Council of America, Room 3401, 10 East 40th St., N. Y., or Room 433, 727 W. 7th St., Los Angeles, California

The Modern Style is

GENUINE CLAY
tile

PARTICIPATING COMPANIES: American Encaustic Tiling Co. • Architectural Tiling Co., Inc. • Atlantic Tile Mfg. Co. • B. Mifflin Hood Co. • Cambridge Tile Mfg. Co. • Carlyle Tile Co. • General Tile Co. • Gladding, McBean & Co. • Jordan Tile Mfg. Co. • Mosaic Tile Company • Murray Tile Co., Inc. • National Tile & Mfg. Co. • Olean Tile Co. • Pomona Tile Mfg. Co. • Robertson Mfg. Co. • Royal Tile Manufacturing Co. • Sparta Ceramic Co. • Summitville Tiles, Inc. • United States Quarry Tile Co. • Winburn Tile Mfg. Co.

Page Beauchamp

motel rooms

With the increase in the number of motels being built and the particular way in which they are used (as opposed to hotels), there is a completely new set of design problems which must be met, if the results are to be both effective and attractive. There are two basic ways in which the motel is used—(1) as a quick overnight stopover, and (2) as a resort accommodation, where the stay is longer. Too many motels of the first type have had almost no design attention. A bed, a light, and one chair placed in the cubicle—and "furnishing" is done. Yet the convenience of having one's room or suite always on the first floor, with one's transportation right at hand, has contributed greatly to the motel's popularity.

The Knoll Planning Unit has thoroughly studied motel needs and has come up with some of the most successful solutions. In the following section are three projects, shown in sketch or model form, to illustrate the Knoll design approach. In motels, generally, misuse of the furnishings is common. Since payment is usually in advance (and there is no formal check-out), travelers dare to abuse the property freely and to help themselves to anything portable. Hotels have always had this same drain—but to a lesser degree. The Planning Unit decided to approach the problem by making the rooms attractive through a knowing use of color, cleanness of design, and dignity as well as comfort; thus creating an atmosphere that is pleasant and appealing, with a sense of permanence, rather than transience. Fabrics and materials easy to maintain, and least apt to be harmed by hard wear, were used. As a precaution against pilfering and to save the wear-and-tear incurred by really violent "housekeeping," everything is either attached to the wall or otherwise secured. So that guests will not be likely to leave their belongings (and for economy), there are no storage pieces and closets are without doors in the motels catering to transients. Furnishings in the "resort" motels are more elaborate, but generally there is an attempt to consolidate storage pieces, because space is always at a premium. The following examples show the most effective solutions, with no compromise in beauty and attractiveness.

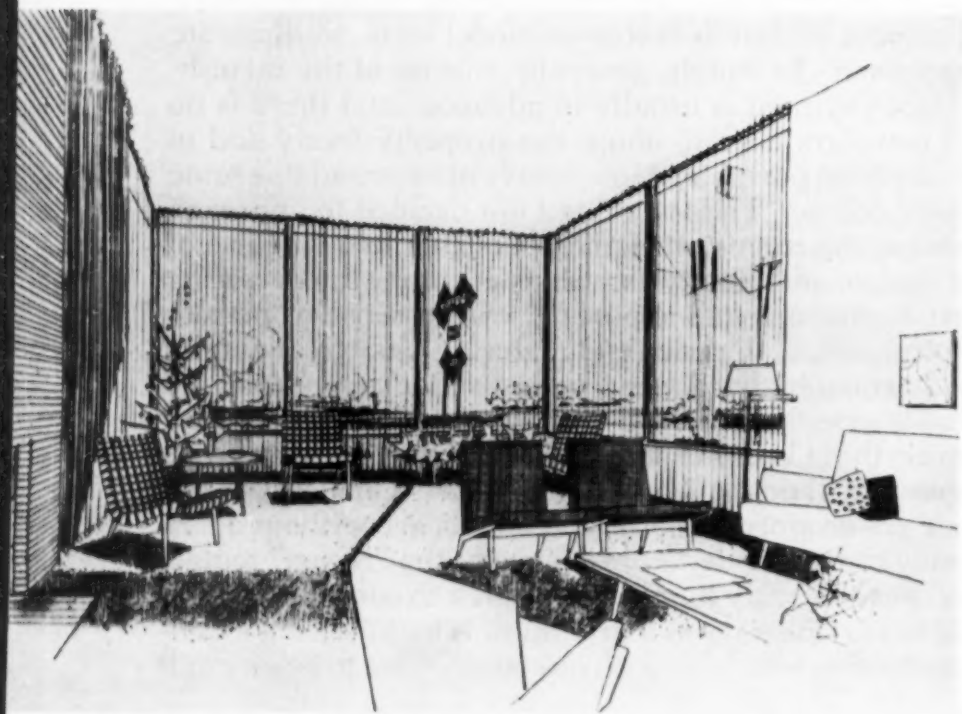
motel rooms

project | **Reception Area/Office and Room for Tour-Inns, Inc.**

interior designers | **Knoll Planning Unit**

Frequently the reception area/office of a motel is simply one of the rooms—with a desk and a small sign outside, proclaiming OFFICE. In this project, the designers have achieved an attractive, well-lighted, glass-walled area that is intriguing without being lush. It suggests that guests are welcome. Gay color and clean designs are ever-present salesmen, attesting that the motel is a cheerful, well-kept, and comfortable place to stay.

No storage space is supplied in rental units of this motel, because of the transient character of the business. A rack is supplied, which may be used for luggage or seating. Arrangement is more like a living room than a bedroom, and a single telephone/radio unit has been designed. Lamps are secured to the wall, ash trays are permanently fixed, and as much surface space as possible is supplied for convenience.



lobby

furnishings and fabrics

Chairs: #654W, webbed/ dimensions: 20" x 28½" x 29½" h./ **retail:** $44.50/ Knoll Associates, Inc., 575 Madison Ave., New York, N.Y.

Armless Chair: #21/ upholstered, wooden base/ dimensions: 23½" x 30½" x 31" h./ Knoll Associates, Inc.

Sofa, Armchair, Tables: special design/ Knoll Associates, Inc.

Fishnet: Knoll Textiles, Inc.

lighting

Floor Lamp: #907/ Nessen Studios, Inc., Five University Place, New York, N.Y.

telephone/ radio unit

room

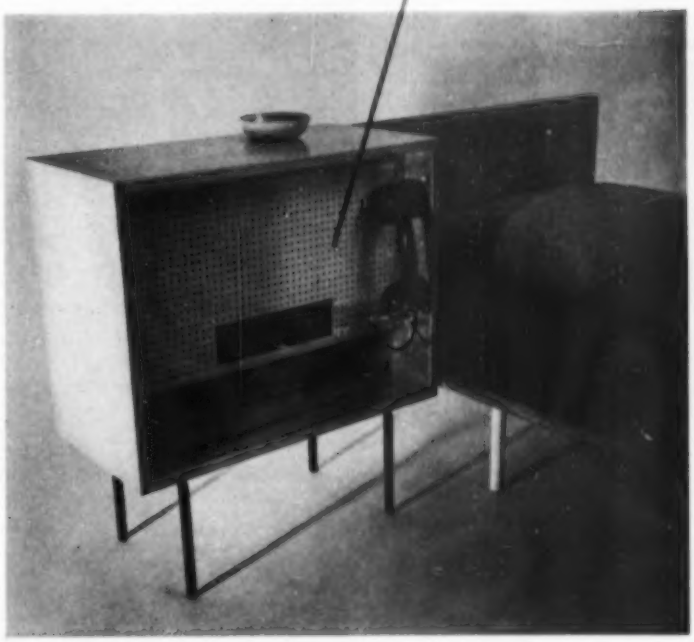
furnishings and fabrics

Armchair: #652W/ dimensions: 24" x 29" x 30½" h./ **retail:** $56.50/ Knoll Associates, Inc.

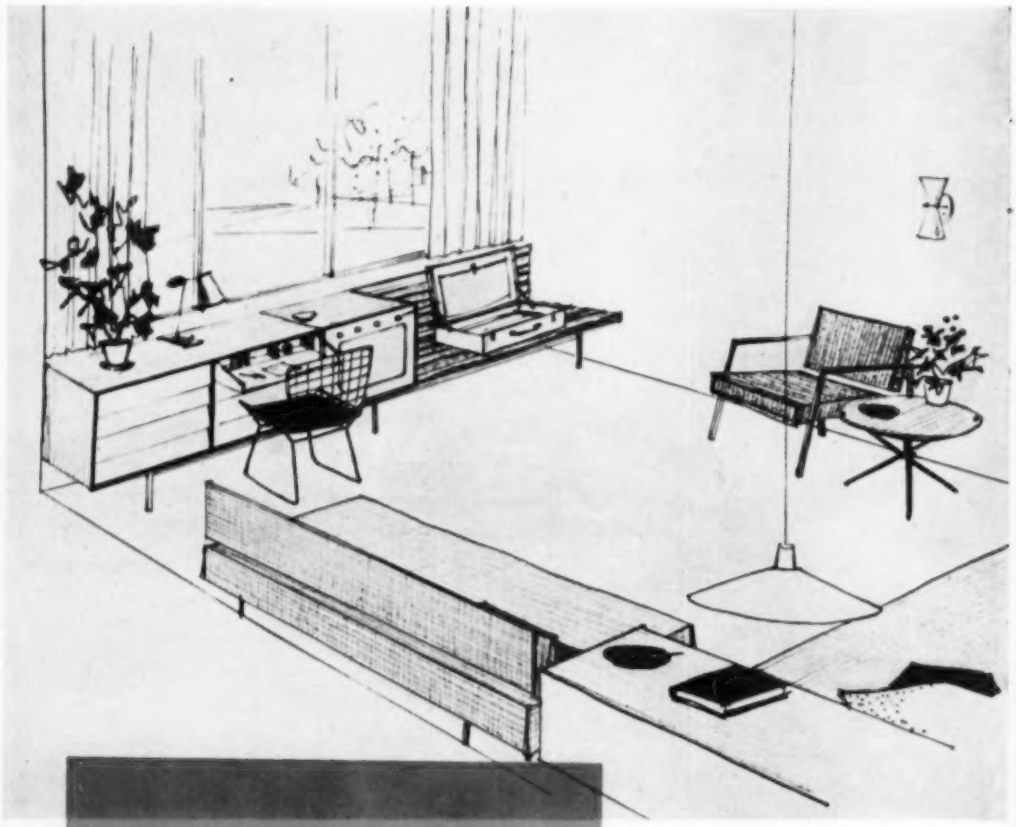
Side Chairs: #666U/ plastic webbing/ dimensions: 17½" x 21½" x 30½" h./ **retail:** $38.25/ Knoll Associates, Inc.

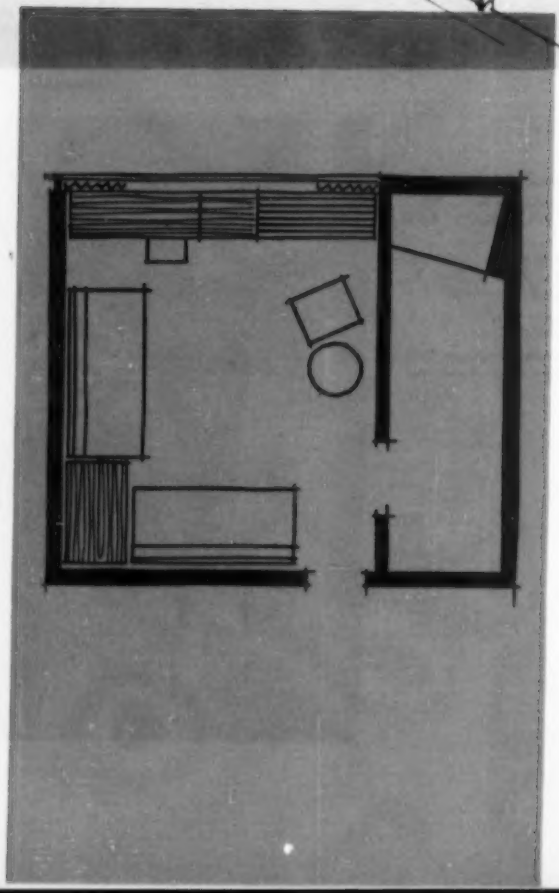
Table: #106/ Formica top/ 32" square, 29" h./ Knoll Associates, Inc.

Luggage Rack, Radio/Telephone Unit, Bed: special design/ Knoll Associates Inc.



motel rooms





data

furnishings

Beds: special design headboard and backrest/ Knoll Associates, Inc., 575 Madison Avenue, New York, N.Y.

Armchair: #49, lounge/ dimensions: 22" x 23" x 30" h./ designed by Franco Albini/ **retail:** $86.75/ Knoll Associates, Inc.

Desk Chair: #420/ steel-wire seat on steel-rod base/ dimensions: 21½" x 21" x 31" h./ designed by Harry Bertoia/ **retail:** $49.50/ Knoll Associates, Inc.

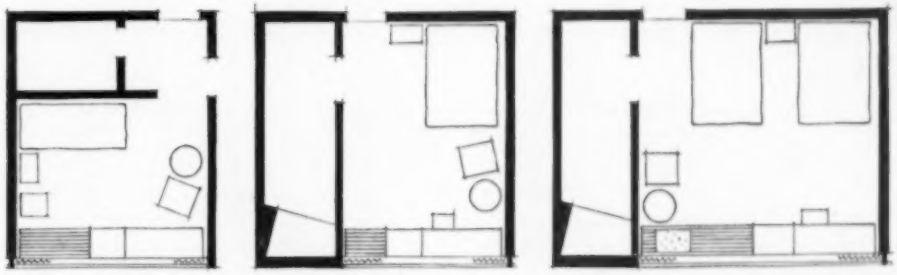
Chest, Television Set, Desk/Dressing Table Unit on Luggage Rack: special design/ Knoll Associates, Inc.

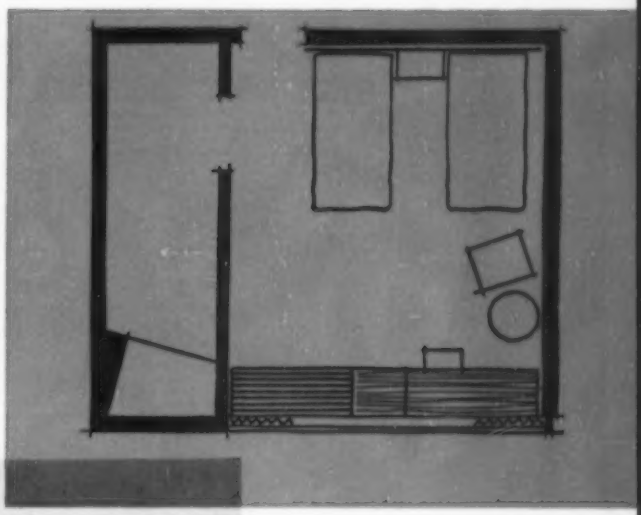
lighting

Hanging Lamp: special design/ Stamford, 429 W. Broadway, New York, N.Y.

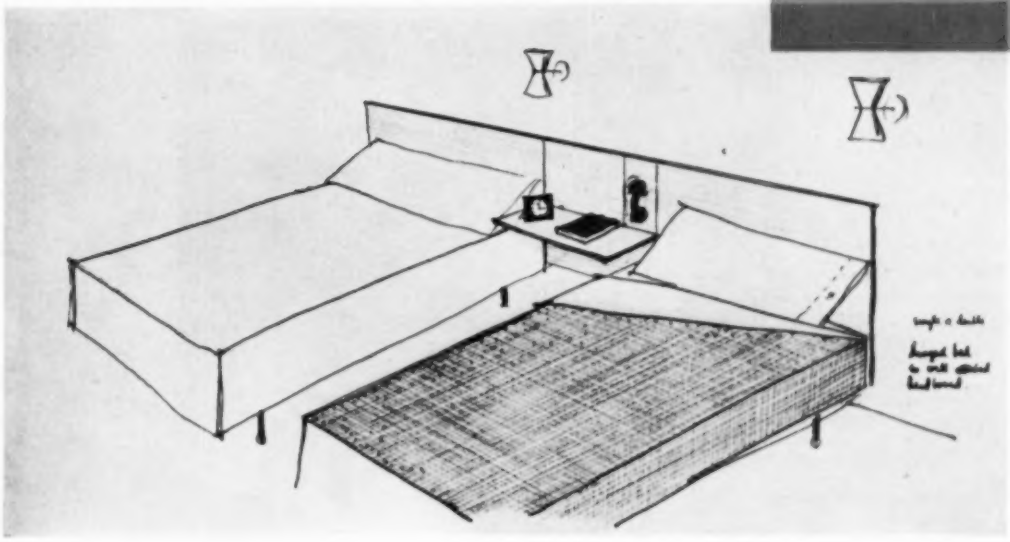
project | Design for a Resort Motel

interior designers | Knoll Planning Unit

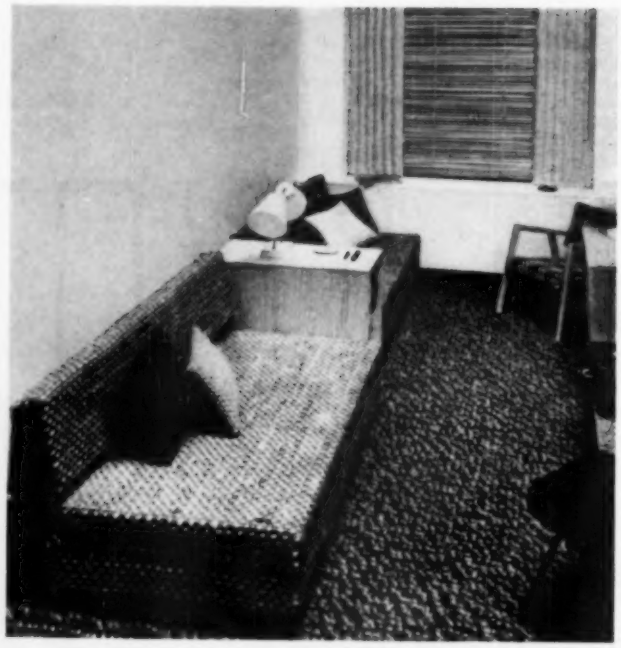




The bench supporting the chest, desk/dressing table unit, and television set may be varied in length according to the size of the room. In this project are five possible room arrangements. Shown in sketch form are the studio-type arrangement and a unit with two single beds. Plans show the other three arrangements—two double beds, one double bed, and one single bed. Pictures are laminated to the wall by a special process, eliminating dust-catching frames, and possibility of breakage or theft. Basically, the design interest is in choice of textures and color.



motel rooms



data

furnishings and fabrics

Day Bed: #701 with special design headboard/ Knoll Associates, Inc., 575 Madison Ave., New York, N.Y.

Lounge Chair: #49/ dimensions: 25" x 27½" x 29½" h./ designed by Franco Albini/ **retail:** $102, in muslin/ Knoll Associates, Inc.

Chair: #72US8/ tubular steel legs molded plastic shell, foam-rubber upholstery/ designed by Eero Saarinen/ **retail:** $68.75, in muslin/ Knoll Associates, Inc.

Storage Pieces, Radio/Telephone Unit: special design/ Knoll Associates, Inc.

lighting

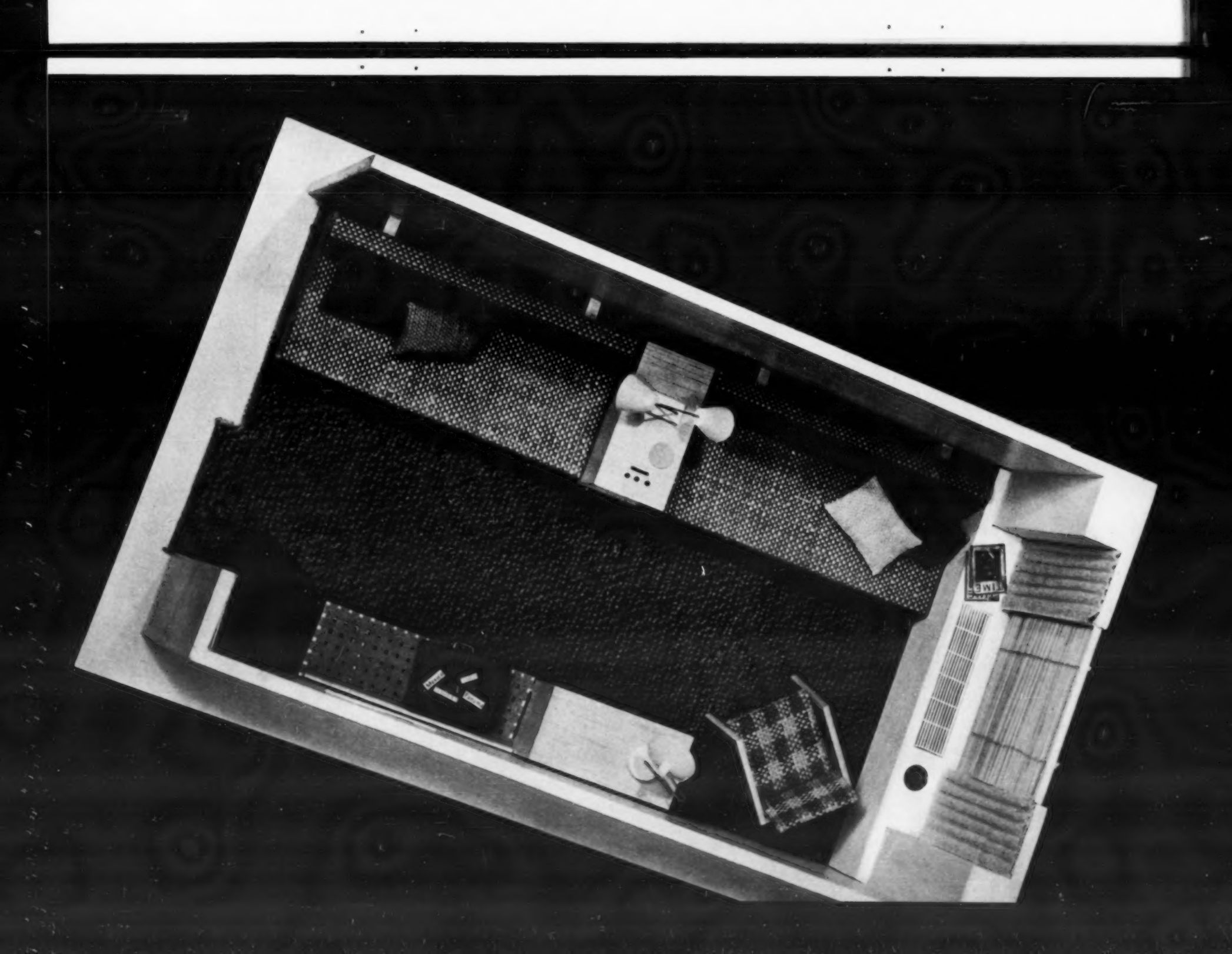
Desk Lamp: #8/ brushed brass-plated base, metal shade, swivel attachment/ designed by Clay Michie/ **retail:** $34/ Knoll Associates, Inc.

Double Lamp: special design.

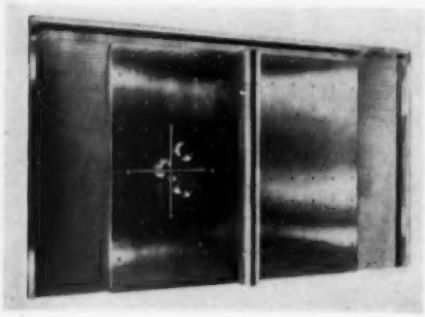
project | **Model for a Motel**

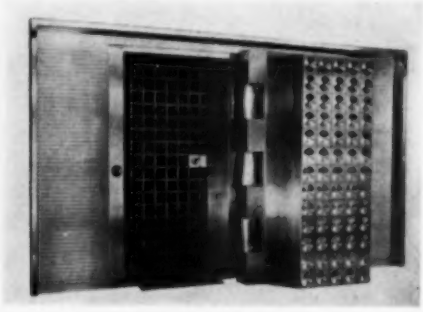
interior designers | **Knoll Planning Unit**

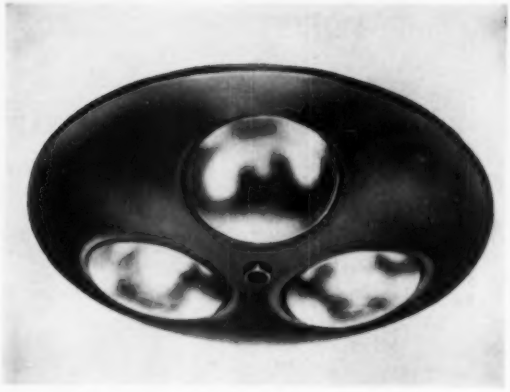
Most amazing fact about this project is that the room is only nine feet wide and yet it is furnished with a chest, a luggage rack, a radio/telephone unit, two beds, and occasional chairs. The bed arrangement permits freedom of movement and creates a pleasant conversational group by day. The combination chest/ luggage rack is a space saver, and yet it helps to keep the design of the room clean and uncluttered.



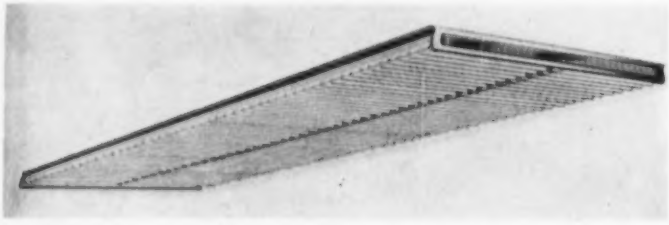
Bank Vault Door: "Diebold-Basic"/ may be custom designed to fit any interior/ designed to appear in normal position when opened/ mechanisms concealed by face plates/ two solid-steel locking bars calculated to be 186 times as strong as conventional bolt work/ **Diebold Incorporated, Bank Division, Canton 2, Ohio.**





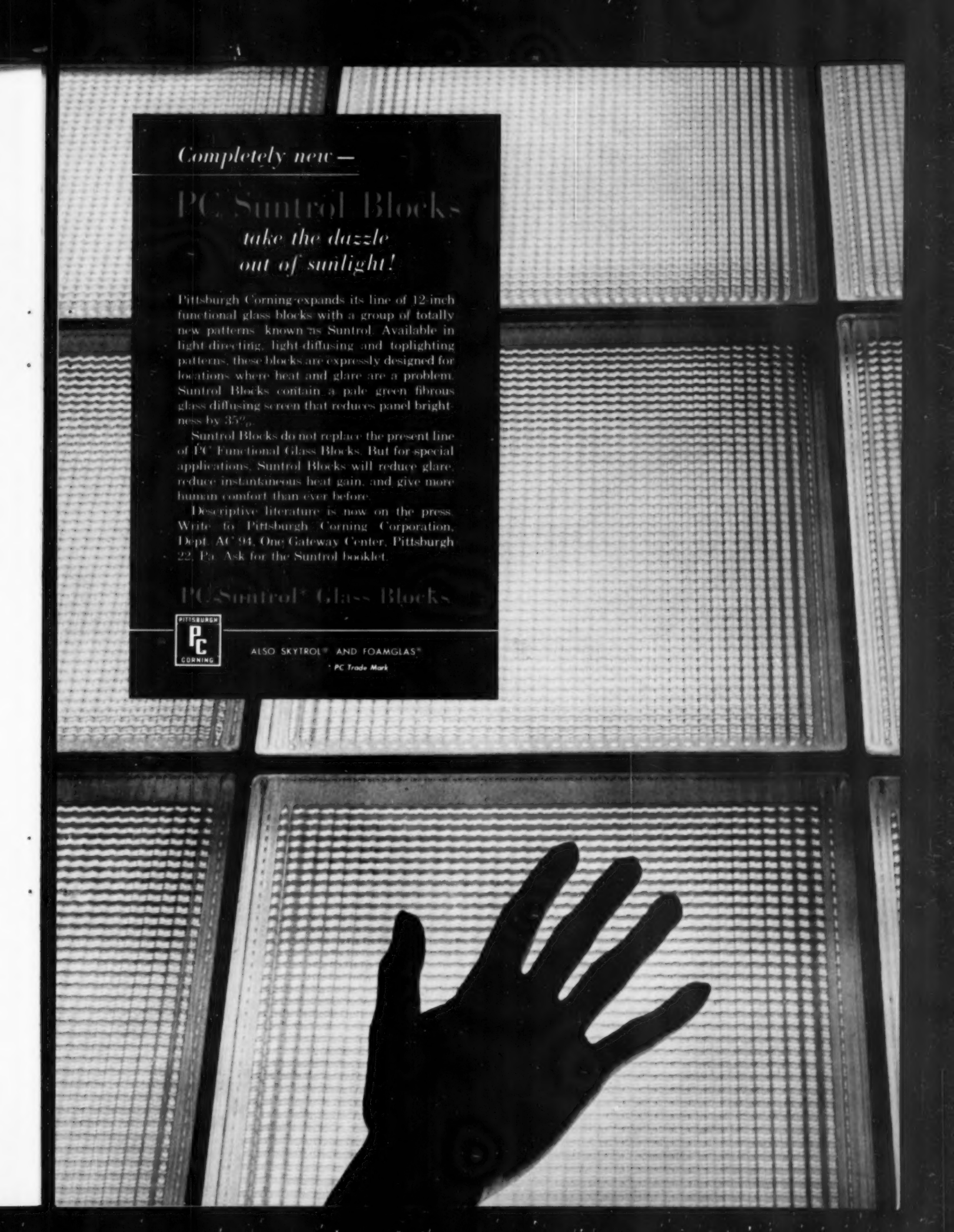


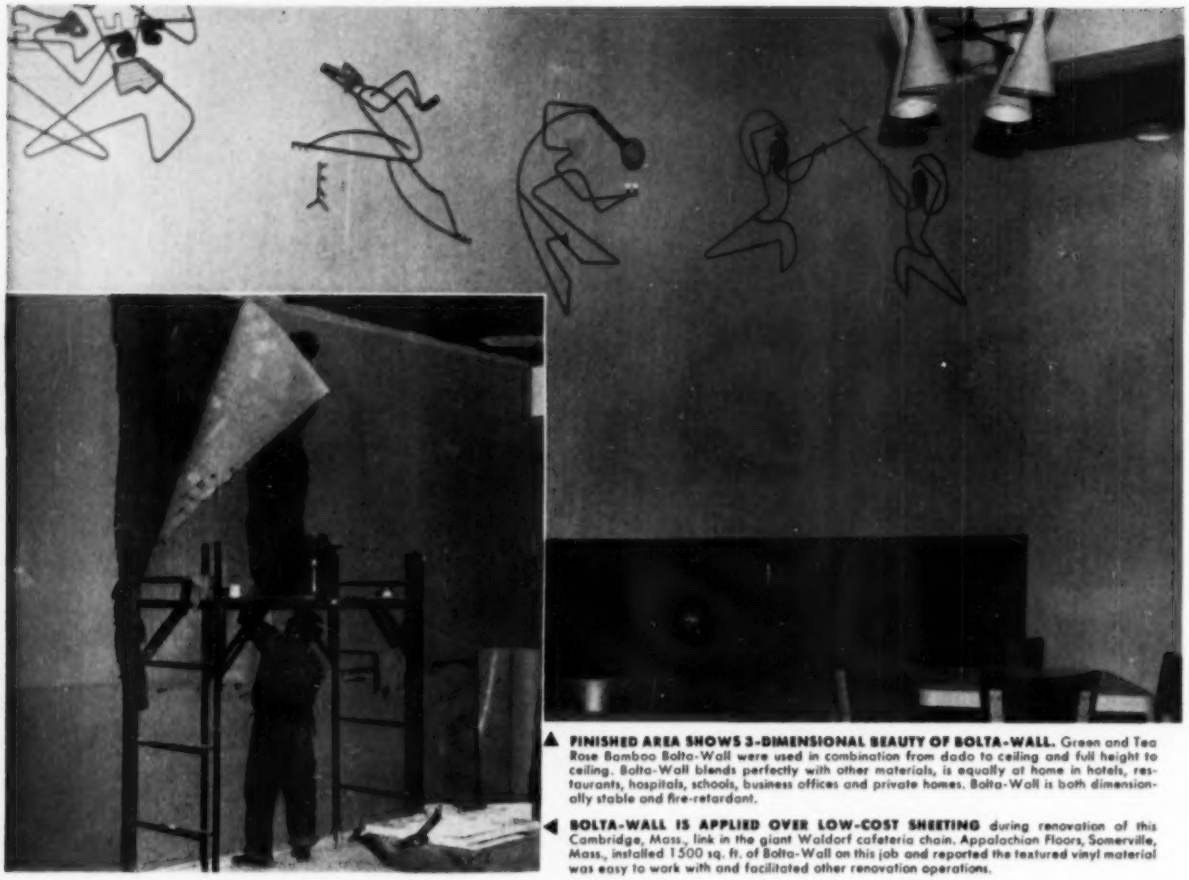
Infra-Red Ceiling Heater: #5003/ recommended for bathrooms where wall space is limited/ eliminates need for floor heaters which may be dangerous/ accommodates R-40 infrared lamps/ **Pryne & Company, 140 N. Towne Ave., Pomona, Calif.**



Luminaire: Series 164, "Arealux"/ shallow, wide area fluorescent/ 35-3/4" wide, 5" deep, available in four-, six-, and eight-foot lengths/ finished in high-gloss white enamel/ **Lighting Products, Inc., Highland Park, Ill.**

Television Set: "Challenger"/ 17" screen/ receiver is only 1/2" wider than screen/ controls on top/ metal cabinet available in following colors: charcoal black, black stag, autumn brown, sea mist green, and gold/ leatherette cases available/ **retail:** $139.95/ **Raytheon Manufacturing Co., Television and Radio Operations, 5921 Dickens Ave., Chicago 39, Ill.**


Completely new—
PC Suntrol Blocks
take the dazzle
out of sunlight!
Pittsburgh Corning expands its line of 12-inch functional glass blocks with a group of totally new patterns known as Suntrol. Available in light directing, light diffusing and toplighting patterns, these blocks are expressly designed for locations where heat and glare are a problem. Suntrol Blocks contain a pale green fibrous glass diffusing screen that reduces panel brightness by 35%.
Suntrol Blocks do not replace the present line of PC Functional Glass Blocks. But for special applications, Suntrol Blocks will reduce glare, reduce instantaneous heat gain, and give more human comfort than ever before.
Descriptive literature is now on the press. Write to Pittsburgh Corning Corporation, Dept. AC 94, One Gateway Center, Pittsburgh 22, Pa. Ask for the Suntrol booklet.
PC Suntrol® Glass Blocks
PITTSBURGH PC CORNING
ALSO SKYTROL® AND FOAMGLAS®
® PC Trade Mark



▲ **FINISHED AREA SHOWS 3-DIMENSIONAL BEAUTY OF BOLTA-WALL.** Green and Tea Rose Bamboo Bolta-Wall were used in combination from dado to ceiling and full height to ceiling. Bolta-Wall blends perfectly with other materials, is equally at home in hotels, restaurants, hospitals, schools, business offices and private homes. Bolta-Wall is both dimensionally stable and fire-retardant.

◀ **BOLTA-WALL IS APPLIED OVER LOW-COST SHEETING** during renovation of this Cambridge, Mass., link in the giant Waldorf cafeteria chain. Appalachian Floors, Somerville, Mass., installed 1500 sq. ft. of Bolta-Wall on this job and reported the textured vinyl material was easy to work with and facilitated other renovation operations.

Waldorf Cafeteria renovates quickly, inexpensively with *Bolta-Wall*

New York architect Herman S. Sack specified this beautiful, flexible, textured vinyl wall covering because . . .

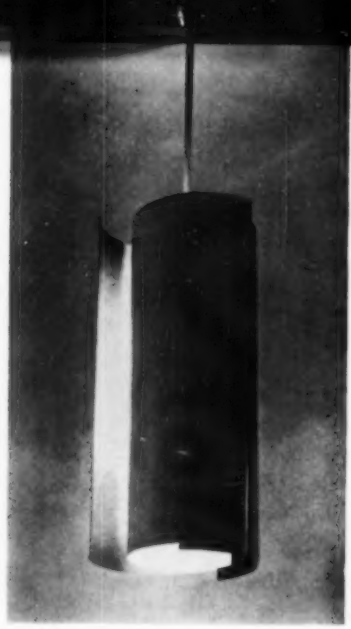
. . . Bolta-Wall is a washable wall covering of extraordinary beauty — beauty that will last indefinitely because Bolta-Wall has outstanding resistance to scuffing, staining and fading. It will not crack or peel and is fire-retardant. Maintenance costs are reduced to a minimum, replacement and repair are virtually eliminated.

. . . Bolta-Wall goes on any dry wall construction *fast* — needs no plaster backing. The Waldorf used low-cost gypsum sheeting as a base for this 1500 sq. ft. installation . . . no waiting for plaster to dry. Carpenters and other trades were able to work simultaneously because the application of Bolta-Wall requires small space and moves along quickly. Remodeling time was cut by weeks!

. . . Bolta-Wall provides a new, distinctive look in any one of 4 dramatic patterns and in combinations. Blends well with other wall materials. The Waldorf chose 3-dimensional Bamboo, available in several pastel tones. Your customers may prefer the rich Mahogany woodgrain pattern, distinguished Leathergrain or the enchanting new Georama Line of soft, modern pastels.

Comparable durability and elegance cannot be found in any wall covering without paying up to 30% more than the cost of Bolta-Wall. Available by the yard and in 8″ tiles. Write for free samples and specifications today, Box 549.

BOLTA PRODUCTS
Lawrence, Mass.
A Division of The General Tire & Rubber Co.



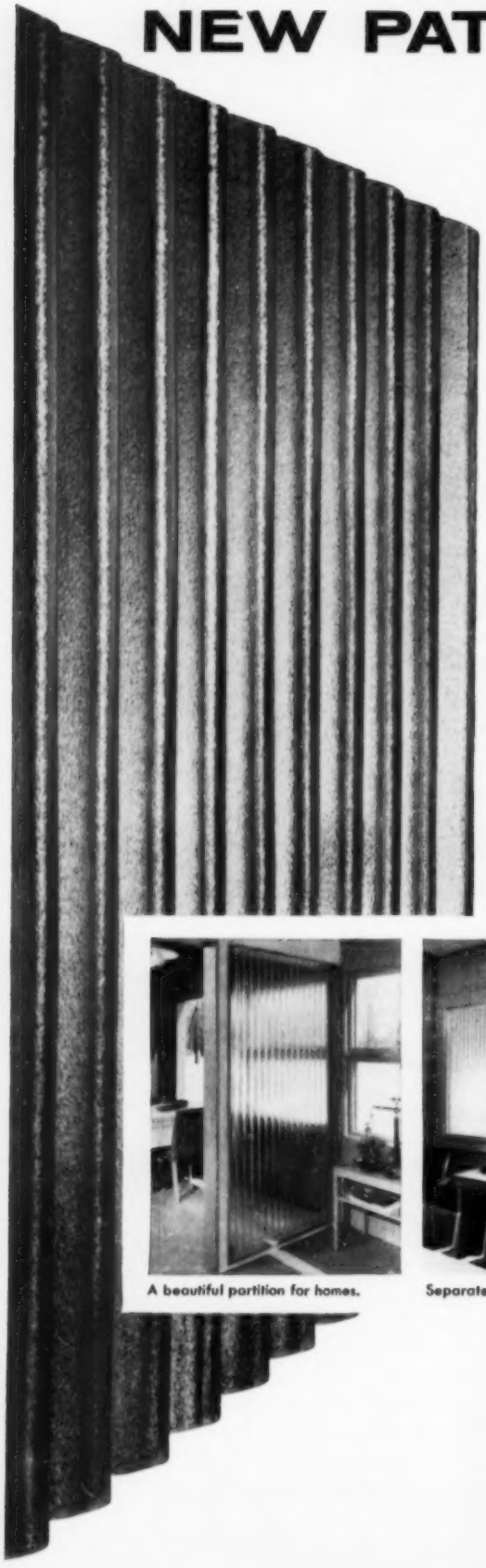
Hanging Lamp: "Three Metal Twists"/ light glows between bright-colored sculpture-curved metal reflectors/ available in variety of colors/ designed by Paul Mayen/ **retail:** $62/ **Habitat Associates, 235 E. 58 St., New York, N. Y.**

End Table: 24" x 30"/ top divided in half with choice of two Formica colors, marble, or half clear glass and half sand-blasted glass/ chrome base/ designed by Nardin & Radoczy/ **retail:** $110/ **Habitat Associates, 235 E. 58 St., New York, N. Y.**

Coffee Table: 18" x 60"/ clear and etched-glass top/ polished-chrome base/ designed by Nardin & Radoczy/ **retail:** $183/ **Habitat Associates, 235 E. 58 St., New York, N. Y.**

Stool: three-leg with stabilizing base in back to prevent tipping/ designed by Albert Radoczy/ **retail:** $29/ **Habitat Associates, 235 E. 58 St., New York, N. Y.**

NEW PATTERNED GLASS



. . . combines two popular decorating features

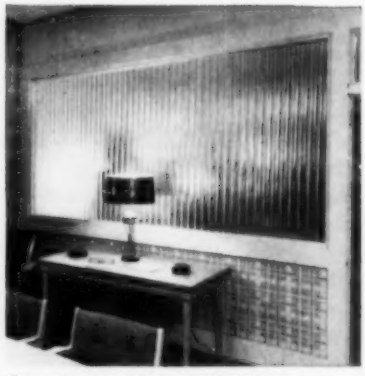
IT'S CORRUGATED . . . rhythmic, curving lines in translucent glass . . . glass that creates a sturdy, light-passing partition or wall of unusual beauty. It is ⅜" thick, with corrugations 2½" center to center.

IT'S MURALEX PATTERN . . . a softly diffusing over-all pattern that's rolled on the surface of the glass. The lovely texture and neutral tones make it an ideal modern decorating medium. This pattern matches the surface finish of the beautiful, all-glass *Securit** Interior Glass Door. It provides excellent obscurity for privacy, yet lets light come through.

Here's a beautiful way to lift rooms out of the ordinary . . . to satisfy people's pride of ownership . . . their desire to be different. Keep it in mind, for new construction and remodeling. Your L·O·F Glass Distributor or Dealer can give you all the details on this new glass. Look him up in the yellow pages of your phone book. *®

BLUE RIDGE
Patterned GLASS

A beautiful partition for homes.



Separates space, but transmits light.

The pattern matches the Securit Interior Glass Door.

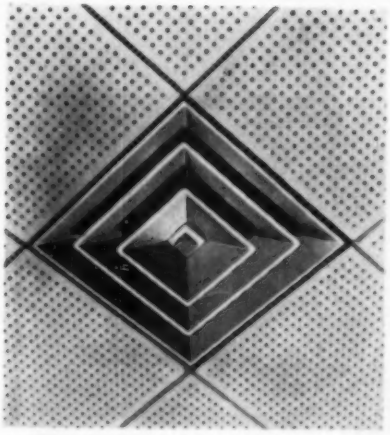
Libbey-Owens-Ford Glass Co., Dept. B-994
608 Madison Ave., Toledo 3, Ohio

Please send me full information on Blue Ridge Corrugated Glass.

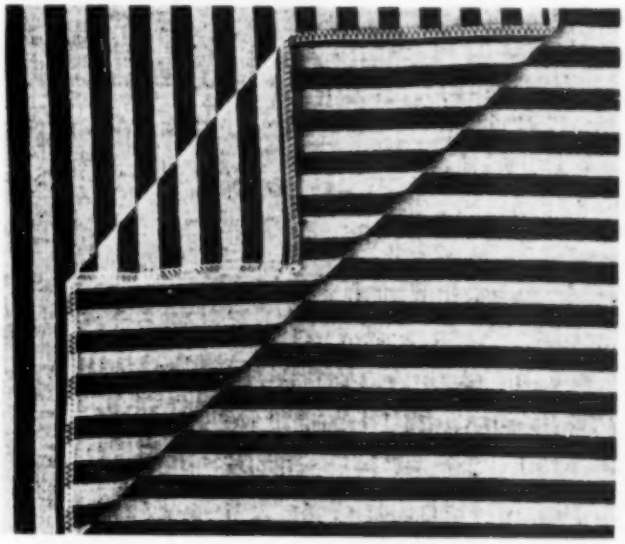
Name _____
(please print)

Address _____

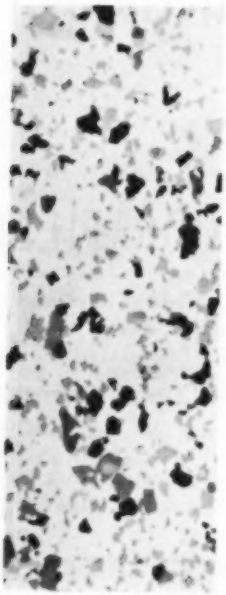
City _____ State _____



Diffuser: "Type H-Flexiflo/ manufactured for acoustical tile or plaster installations/ built-in equalizing deflectors/ vanes increase or decrease volume as adjusted without changing pattern of diffusion/ available with 4" to 16" neck diameter/ **Universal Diffuser Corp., 1360 Garrison Ave., New York 59, N. Y.**

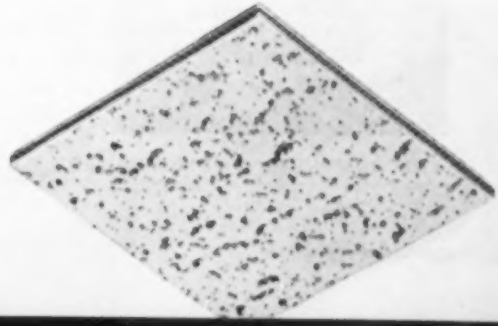


Fabric: "Chico Stripes"/ all-cotton/ two-color stripes in red, yellow, white, copper, brown, or turquoise with black; green with blue/ 48" wide/ styled by Eszter Haraszty/ **retail:** $6.65 a yd./ **Knoll Textiles Inc., 575 Madison Ave., New York, N. Y.**



Vinyl-Plastic Flooring: "Terrazzo Corlon"/ stone-chip effect/ available in six colors: white ground with black and gray chip shapes; white, pink, green, sand, and gray ground with multicolor chip shapes/ width: 72"/ **Armstrong Cork Company, Lancaster, Pa.**

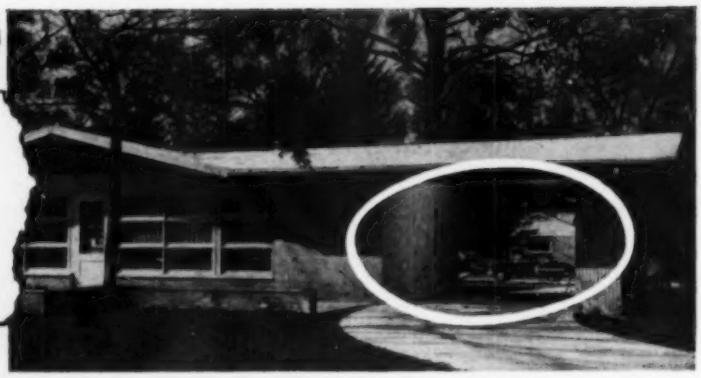
Acoustical Tile: "Forestone"/ fissured fiber/ square-edged or beveled/ 12" square x ¾" thick/ white finish is flame resistant/ sound absorption coefficient equal to mineral tile/ **Simpson Logging Company, 1010 White Bldg., Seattle 1, Wash.**



MEMO

TO ARCHITECTS & BUILDERS:

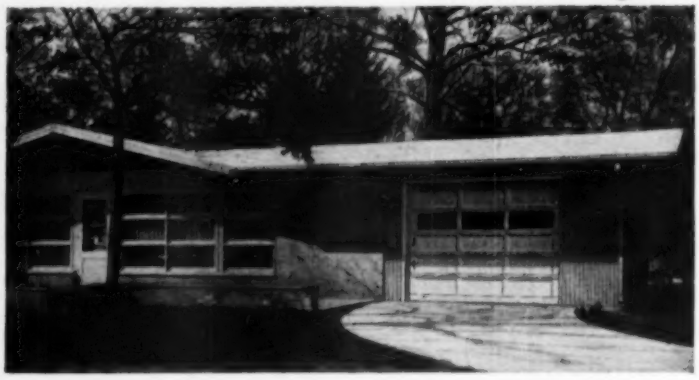
A carport can give even the best planned house a half-finished look. These pictures show why . . .



No house is COMPLETE without a *Garage!*

An extended roof line with a see-through carport won't create that rambling, spacious effect so popular in ranch-type homes today . . . as the upper photo proves.

But a fully enclosed garage (right) adds length, beauty, **completeness** to any home. Moreover, it adds an extra room for play, workshop, storage . . . safe all-year car protection . . . greater sales appeal for you — greater resale value for the owner!



. . . and No *Garage* is complete without:

THE "OVERHEAD DOOR" TRADE MARK

FIRST and FINEST in the GARAGE DOOR FIELD!

Whether you're a project or custom builder, The "OVERHEAD DOOR" can mean more sales, more satisfied owners for your houses!

The "OVERHEAD DOOR" is America's great name in quality doors. It gives you such plus features as: Miracle Wedge* for weather-tight closure, easiest opening . . . tapered drums for perfect balance in any position . . . Salt Spray Steel* rust-resistant hardware . . . standard and special-design doors in all sizes . . . Nation-wide Sales—Installation—Service

New! ULTRONIC Door Operator . . . unlocks and opens garage door, turns on lights, closes, or stops the door, from pushbutton in car. Surprisingly low in cost, and a sensational new selling feature. Investigate!

LOOK FOR THE TRADEMARK in the yellow pages under "Doors" and call your local dealer now — or write for complete details.

OVERHEAD DOOR CORPORATION

Dept. PA 5, Hartford City, Indiana

MANUFACTURING DIVISIONS

Hillside, N. J. • Cortland, N.Y. • Oklahoma City, Okla.
Nashua, N. H. • Lewistown, Pa. • Dallas, Tex. • Portland, Ore.

© 1954, O.D.C. * TRADE MARK

THE COMPLETE LINE OF UPWARD-ACTING DOORS . . . **RESIDENTIAL • COMMERCIAL • INDUSTRIAL**

Wall Paneling: "Nu-Wood Panel-Tex"/ surface has woven texture, latex-base coating resists scuffing/ for use on walls and ceilings for insulation and sound deadening/ available in 8' and 10' lengths and 8", 10", and 12" widths/ colors: Cactus, Almond Brown, Lustre Gray/ **Wood Conversion Company, First National Bank Bldg., St. Paul 1, Minn.**

Barrel Wing Chair: seat of Fiberglas-reinforced plastic/ frame and legs of tubular steel, chromium, or with wood rockers/ may be used in outside areas/ available in brown, citron, green, gray, beige/ designed by Lawrence Peabody/ **retail:** $34.50/ **Selig Manufacturing Co., Leominster, Mass.**

File Cabinets: "Kompact"/ available in three-drawer desk height, 4-drawer counter height, 5-drawer standard 51" height, or 6-drawer in standard height—same vertical space as standard five-drawer files/ may reduce filing space by as much as one third/ **Remington Rand Inc., 315 Fourth Ave., New York 10, N. Y.**

Sliding-Door Hardware: "Ray-Dor"/ permits doors to be flush when closed/ door to be opened pivots in behind other door/ both doors may be removed easily for cleaning or in storing large objects/ designed by Henry Ray/ **Mulray Products, Inc., 230 E. 124 St., New York 35, N. Y.**

Portable, Folding Banquet Table: "Fold-A-Way"/ folded width is 10", may be rolled on wheels and stacked for storage/ ¾" plywood top covered with plastic/ legs and chassis of 1⅛" square steel tubing/ available in 60", 66", and 72" diameters, 29" high/ **Haldeman-Langford Mfg. Co., St. Paul, Minn.**

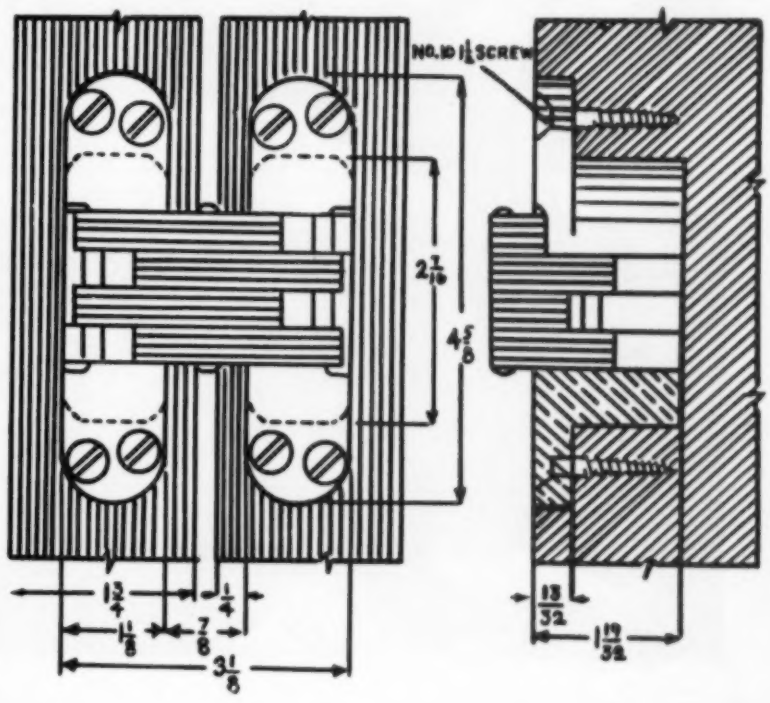
Venetian Blinds: "Linen Fresh"/ nongloss linen-like finish on metal slats/ available in pink, green, yellow, gray, and natural/ **Levelor Lorentzen, Inc., 391 W. Broadway, New York 12, N. Y.**

Laundry Tub: Fiberglas-reinforced plastic tub on wrought-iron stand/ 90% lighter than standard tubs, weighs 20 pounds/ 24" square, 12" deep, 26-gallon capacity/ surface resembles a painted or enameled surface/ **retail: $49.95/ Gray-Wilson Company, 6460 Kercheval Ave., Detroit 7, Mich.**

New Luminaires: "Opal Sphere Luminaire"/ hand-blown opal-glass spheres in 10", 12", 14", and 16" diameters/ for ceiling or in pendant type that allows a 52-degree latitude of swing for use on a slanted ceiling; "Indirect Luminaire"/ concentric-ring-type fixture/ recommended for use in schools, hospitals, or offices where high efficiency, uniform brightness, and minimum maintenance are required; "Even-Glo"/ subtle blue tones are denser near the lamp and reduced in the outer rings to allow more translucence and glare reduction/ **Prescolite Manufacturing Corporation, 2229 Fourth St., Berkeley 10, Calif.**

Cork Tile: #CK101 light, #CK102 medium, #CK103 dark/ built-in soil resistance allows use where heretofore cork tile was impractical/ 1/8" and 3/16" gages/ 6" square, 6" x 12", 9" x 9", 12" x 12", 12" x 24"/ packaged with combination of light, medium, and dark colorings/ **Congoleum-Nairn Inc., Kearny, N. J.**

"Bubble" Lamp: #741, #761, #729/ cylindrical shape with checkerboard pattern of wire fencing in a sheath of translucent plastic/ three sizes: 8" x 18", 12" x 16", and 16" x 24"/ designed by George Nelson/ manufactured by Howard Miller Clock Co., Zeeland, Mich./ **Richards Morgenthau, 225 Fifth Ave., New York, N. Y.**



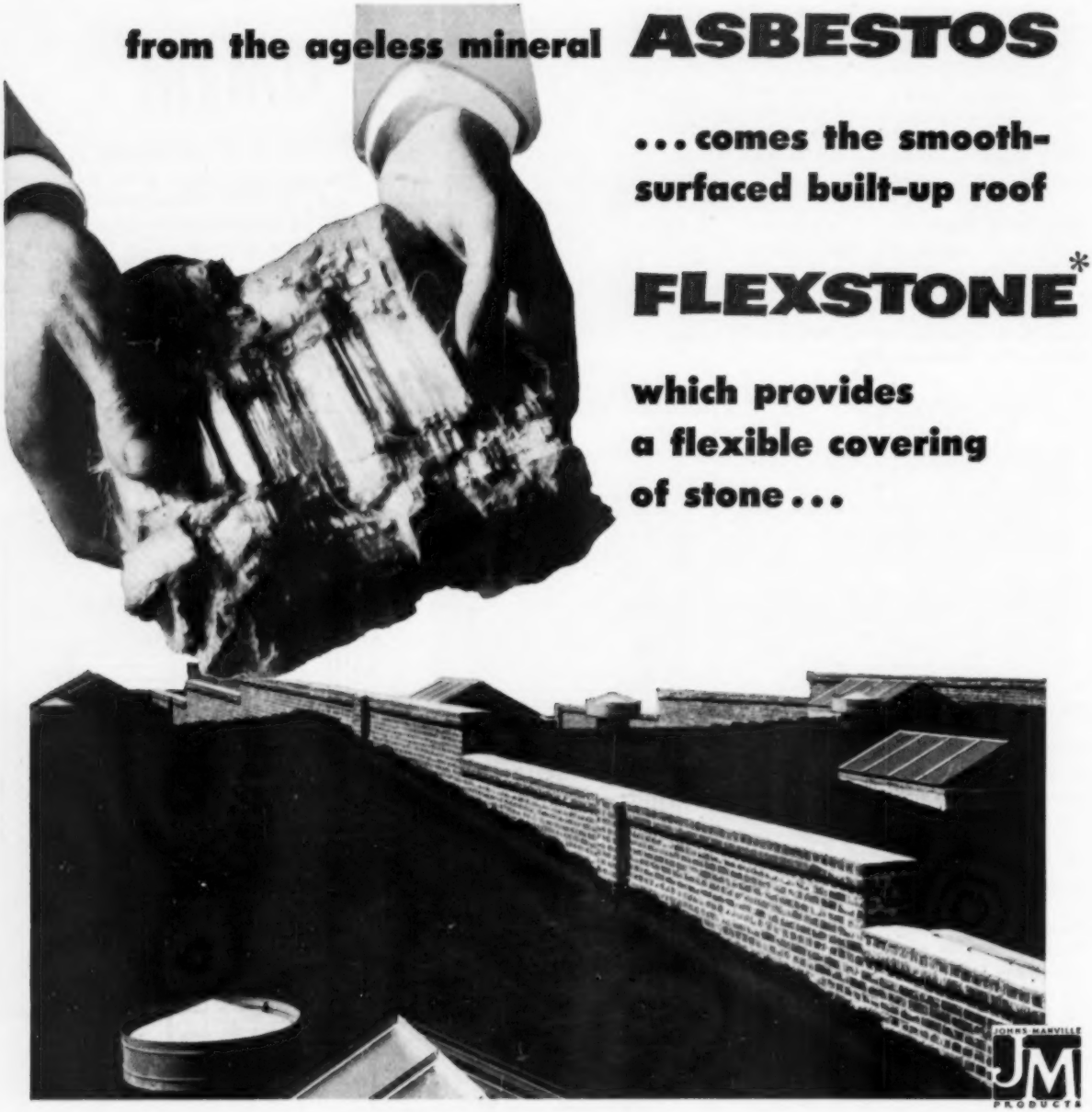
Invisible Hinge: hinge is completely hidden from view when doors or lids are closed/ beautifies, streamlines interiors/ ideal for contemporary architecture/ special rust-proof alloy/ gives excellent service under all climatic conditions/ easy to install/ pleasing to clients/ available in wide variety of sizes/ catalogue free on request/ **Soss Manufacturing Company, 21715 Hoover Road, Detroit 13, Mich.**

from the ageless mineral **ASBESTOS**

...comes the smooth-surfaced built-up roof

FLEXSTONE*

which provides a flexible covering of stone...



Because they are made of the mineral, asbestos, the felts of a Johns-Manville Flexstone Built-Up Roof assure lasting service and protection. They will not support combustion. They effectively resist the drying-out action of the sun . . . won't rot, are weatherproof and need no periodic coating.

J-M Flexstone Built-Up Roofs are smooth-surfaced . . . permit thorough drainage, make any damage easy to locate and repair. They are engineered to each job . . . and can be applied on decks ranging from dead level to a pitch of 6 inches per foot.

For complete information about Flexstone Roofs and J-M Asbestile* Flashing System that provides thorough water tightness and effective treatment for critical roof areas, see your Approved Johns-Manville Contractor. He's listed in the Classified Section of the telephone directory. Or send for folder BU-51A. Write Johns-Manville, Box 158, New York 16, N. Y. In Canada, write 199 Bay St., Toronto 1, Ont.

*Reg. U. S. Pat. Off.

Johns-Manville *FLEXSTONE** Built-Up Roofs

ASBESTOS CORRUGATED TRANSITE* • ACOUSTICAL CEILINGS

DECORATIVE FLOORS • MOVABLE WALLS • ETC.

★ *Editor's Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

1-106. Dravo Heater Case Study Reports, 22-p. folder describing nine ways in which warm-air space heaters have been used to heat variety of manufacturing plants. Outline of individual plant requirements and discussion of benefits derived from installing oil- or gas-fired warm-air space heaters. Illustrated. Dravo Corp., 1203 Dravo Bldg., Pittsburgh 22, Pa.

1-107. Illinois Heating Systems and Controls (110), 20-p. catalog covering five major types of steam-heating systems and featuring automatically controlled high-vacuum system which adjusts heat output and fuel consumption to outdoor temperature and heat loss conditions. Line of valves, traps, and steam power specialties also described. Photos and drawings. Illinois Engineering Co., 2035 S. Racine Ave., Chicago 8, Ill.

★ **1-108. Radiant Heating** (1), 40-p. brochure containing condensed report of six conferences on radiant heating sponsored by School of Architecture at Pratt Institute. History, present radiant systems, public acceptance, advantages and disadvantages, control systems, radiant cooling and air conditioning, design considerations, pipes, pumps, circulation, large-scale applications, findings and opinions of the forum. Price: $1.00. School of Architecture, Pratt Institute, Ryerson St., Brooklyn, N. Y.

1-109. Application of Gas Unit Heating. (SA-541), pocket-size 20-p. booklet with information on selection and installation of gas-fired unit heaters. Schematic diagram, heating survey outline, instructions for estimating heat loss and computing gas line requirements. Drawings and charts. Reznor Mfg. Co., Mercer, Pa.

1-110. Wall Radiation, AIA 30-C-4, 4-p. folder giving data on finned-tube convector. Steam ratings; hot water capacities according to pipe size, fin size, and fins per foot; hot water conversion factors for various average water temperatures; recommended installed heights; cover dimensions; and illustrations of element supports. Union Asbestos and Rubber Co., 332 S. Michigan Blvd., Chicago 4, Ill.

1-111. 1954 Westinghouse File for Architects, folder containing three sections: Electrical Living-Air Conditioning, Kitchen Planning and Equipment, and Laundry Planning and Equipment. Specifications, dimensions, features, and other data for planning and installation of such equipment as central and room air conditioners, heat pumps, dehumidifiers, electric heating equipment, refrigerators, freezers, ranges, dishwashers, food waste disposers, automatic washers, electric clothes dryers, and round and table-top water heaters. Request on letterhead stationary. Westinghouse Electric Corp., Electric Appliance Div., Mansfield, Ohio.

construction

2-122. Milcor Metal Lath and Accessories, AIA 20-B-1 (253), 16-p. catalog giving information on various types of metal lath, corner beads, casing beads, screeds, metal access doors, louver ventilators, roof louvers, and steel roof deck. Detail diagrams of steel casing bead and steel access door installations. Inland Steel Products Co., 4101 W. Burnham St., Milwaukee 1, Wis.

2-123. Junior Channels for Stairways, 12-p. booklet describing use of lightweight hot-rolled steel channels in stairway construction. Illustrations showing channels used as stair stringers, table of allowable loads per square foot, and data on properties, sizes, and weights. Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh 30, Pa.

2-124. Marble Used as a Radiation Shield, AIA 35-E-3, 32-p. brochure containing detailed report on experiments conducted at Oak Ridge Institute of Nuclear Studies on protection against high voltage radiations of newest cancer treatment machine (cobalt 60 hectocurie teletherapy unit). Diagrams, room protection charts and tables showing shielding qualities of various thicknesses of marble; floor plan and break-away drawing of prospective room for housing unit. Marble Institute of America, 108 Forster Ave., Mt. Vernon, N. Y.

2-125. Marcolite Skylight, AIA 12-J, 4-p. folder describing skylight of extruded aluminum combined with glass-fiber reinforced plastic panels. Construction features, advantages, cutaway drawing, standard specifications, design data, and size schedule. Installation photos. The Marco Co., 45 Greenwood Ave., East Orange, N. J.

2-126. Reynodeck: Reynolds Lifetime Aluminum Roof Deck, AIA 13-H, 4-p. brochure on roof decking fabricated from aluminum sheets and formed into panels with six stiffener ribs. Data includes thicknesses, lengths, width, weights, total loads. Typical flashing details; specifications. Reynolds Metals Co., Building Products Div., 2000 S. Ninth St., Louisville 1, Ky.

2-127. Installing Teco Timber Connectors in Light and Heavy Timber Structures, AIA 19-B, 12-p. booklet illustrating use of wedge-fit split rings, toothed rings, shear plates, spike grids, clamping plates, and framing anchors. Description of each connector, installation photos, drawings. Timber Engineering Co., 1319 18th St. N. W., Washington 6, D. C.

2-128. Solving Roof Problems, 32-p. brochure on various types of roofs, factors causing their deterioration, and suggested treatments. Repair of copings, parapets, and flashings, localized roof repairs, area treatment of roofs. Illustrated by photos and drawings. The Tremco Mfg. Co., 8701 Kinsman Rd., Cleveland, Ohio.

(Continued on page 159)

PROGRESSIVE ARCHITECTURE, 430 Park Avenue, New York 22, N. Y. I should like a copy of each piece of Manufacturers' Literature circled.

1-106	2-124	3-100	5-22
1-107	2-125	3-101	6-37
1-108	2-126	3-102	7-27
1-109	2-127	4-76	8-55
1-110	2-128	4-77	8-56
1-111	3-97	4-78	
2-122	3-98	5-20	
2-123	3-99	5-21	

Name _____

Position _____

Firm _____

Mailing Address _____ ☐ *Home* ☐ *Business*

City _____ *State* _____

please print

(To obtain literature, coupon must be used by 11/1/54. We request students to send their inquiries directly to the manufacturers.)

Should be in every BASEMENT!

● Basements as well as utility rooms in basementless houses should be protected against water damage. That means using Medusa Waterproofed Cements (or Waterproofing Paste or Powder when waterproofed cements are not available) in all concrete and mortar. These Waterproofings bring economy and satisfaction for the architect and builder, alike.

The cost of using Medusa Waterproofings over a non-waterproofed cement is so small that it means practically nothing in the total home cost, yet assures home owners of dry basements and utility rooms for years to come.

Medusa Waterproofings are available everywhere in one of these forms—Medusa Waterproofed Gray and White Portland Cements, or Medusa Waterproofing Paste and Powder for mixing with regular portland cements. Contact your nearest Medusa sales office for further details.

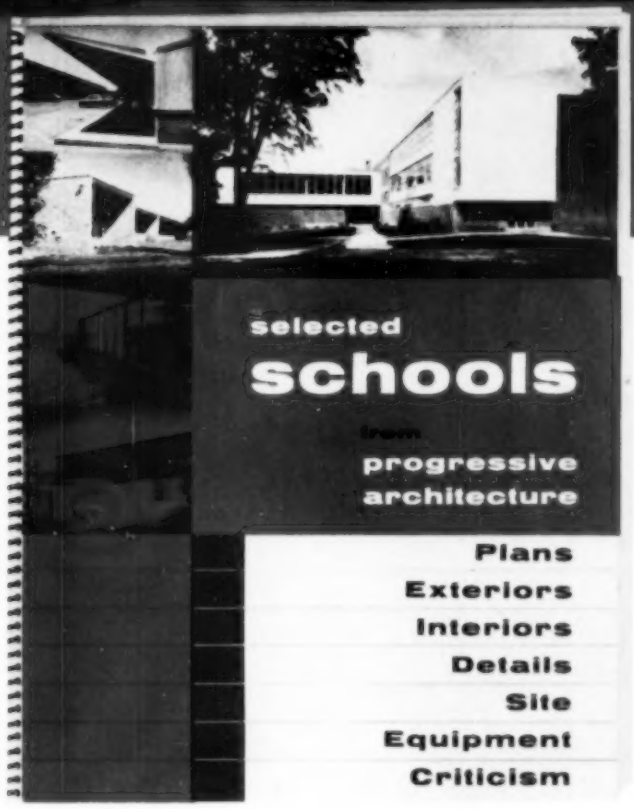
MEDUSA Portland Cement Company

1000 Midland Building • Cleveland 15, Ohio

SALES OFFICES
Cleveland, Ohio
Chicago, Illinois — Toledo, Ohio
Pittsburgh, Pa. — New York, N. Y.
Milwaukee, Wisc. — York, Pennsylvania

WHITE • WATERPROOFED WHITE • GRAY
WATERPROOFED GRAY • AIR ENTRAINING • STONESET
HIGH EARLY STRENGTH • BRIKSET
WHITE TILE GROUT CEMENT

MAKERS OF AMERICA'S FINEST PORTLAND CEMENTS FOR OVER SIXTY YEARS



FREE

WITH NEW SUBSCRIPTION!

Enter your new Progressive Architecture subscription now and get your bonus copy of "SELECTED SCHOOLS"... free and post paid.

Current through August 1954, "Selected Schools" brings you 112 pages, 94 separate photographs, 55 detail drawings... a rich source of SCHOOL design information about

9 High Schools

14 Elementary Schools

16 Colleges and Universities

executed by 37 world-famous architectural and engineering firms, carefully edited, an easy-to-use SCHOOL reference file.

Every Month Progressive Architecture...

delivers a balanced editorial program that has attracted more professional architectural men than any other publication, bringing you:

- Architectural Materials
- Interior Design Data
- Critiques
- Structural Engineering
- Architectural Law
- Office Practice
- Selected Details
- Specification Writing
- and many, many more—

Now... by returning the card below, you can get a brand new, first edition copy of P/A's "SELECTED SCHOOLS" Portfolio as a gift with your new subscription. Present subscribers have already received these fine SCHOOL presentations as part of their regular Progressive Architecture service ... here is a special opportunity for you, as a new subscriber, to receive a personal file of these valued SCHOOL studies. The quantity of "SELECTED SCHOOLS" is limited... act promptly and avoid delay—rip out the card below.

Fill In And Post Right Now.

TO PRESENT SUBSCRIBERS

This is a new subscription offer—not a renewal notice. As a regular subscriber you have already received "Selected Schools" in your monthly issues. However, if you want this edition, check the renewal box on the card and we will extend your subscription.

Otherwise, please pass this offer on to an architectural or engineering associate.

Thank you.

Exclusively for: ARCHITECTS, ENGINEERS, DESIGNERS & DRAFTSMEN (OTHERS $10 PER YEAR)

NEW SUBSCRIPTION ORDER

Please enter my subscription to PROGRESSIVE ARCHITECTURE for:

☐ 1 year $5 ☐ 3 years $10 (saves you $5)

and be sure to send me the bonus copy of the new 112 page Portfolio of SELECTED SCHOOLS.

☐ Bill me later ☐ Payment Enclosed

Name ..... Professional Job Title .....

Street .....

City and State .....

Company ..... (If own please specify)

Type of Business .....

If Architect, are you registered? ..... (In Which State?)

If Engineering:
☐ Civil
☐ Electrical
☐ Mechanical
☐ Other .....

FOR PROMPT SERVICE — DON'T DELAY — MAIL TODAY!

☐ NEW SUBSCRIPTION ☐ RENEWAL SUBSCRIPTION

FOREIGN RATES (1 year): Canada same as U.S., Latin America $10, Other Foreign $15

SEE full description on reverse side telling you about Progressive Architecture's NEW

School Portfolio!

Presenting the work of 37 outstanding architectural firms, illustrated with 94 clear-cut photographs, plus...55 school details, plans and sections.

Every month more and more architects, engineers and designers acclaim Progressive Architecture's value.

They Say:

TOM CREIGHTON'S "P.S." PROVIDES LEADERSHIP

"Your "P.S." in the September issue of Progressive Architecture was a source of genuine delight and satisfaction to me. Your observations are timely and true, giving us the leadership we need so desperately at this time." *— Architect, Spokane, Washington*

ROUND-ROBIN CRITIQUE THE "FINEST"

"Concerning your Round-Robin Critique on "Elementary Schools", we think that this sort of magazine reporting comes near being the finest. Give us more Round-Robin Critiques". *— Architect, Austin, Texas*

P/A COMMENDED FOR READABILITY...

"Commend P/A form of presentation. Self Criticism is most stimulating and informative. We think your handling of the material was very readable. Carry on!" *— Architect & Engineer, Seattle, Washington*

ORCHIDS FROM BERLIN

"I saw your wonderful illustrated magazine in the library of "America House" here in Berlin. I at once got interested in your architectural periodical full of wonderful pictures, plans and technical ideas." *— Designer, Berlin, Germany*

FAR AHEAD...HOW DO WE DO IT?

"Progressive Architecture has moved so far ahead of the pack, that I wonder how you keep up the pace month after month." *— Architect, New Haven, Conn.*

P/A...UNTAINTED

"I enjoy your magazine very much — you seem to publish only *responsible* criticism and praise, P/A refreshingly lacks the taints of commercialism." *— Structural Engineer, Shreveport, Louisiana*

PROUD TO BE INCLUDED

"For my money your top articles are SELECTED DETAILS and IT'S THE LAW. I am as proud to be included as a reader of the magazine which has the largest architectural circulation in the world as you are of this honor." *— Designer, Cuyahoga Falls, Ohio*

SAYS IT AGAIN...

"Rest easy regarding the quality of PROGRESSIVE ARCHITECTURE. You have a very good magazine there, I've said it before and I'm saying it again!" *— Staff Engineer, Denver, Colorado*

APPLAUDS "WASHINGTON PERSPECTIVE"

"Turning to the second page of the NEWSLETTER, I found myself slowing up and carefully reading a penetrating analysis of some current controversial subjects. It was all explained when I saw Fred Gutheim's by-line. Congratulations to both P/A and columnist Gutheim." *— Architect, New York, N. Y.*

Postage Will be Paid by Addressee

VIA AIR MAIL

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
First Class Permit No. 1538, Sec. 34.9, P. L. & R., New York, N. Y.

PROGRESSIVE ARCHITECTURE
REINHOLD PUBLISHING CORP.
430 PARK AVENUE
NEW YORK 22, N. Y.

USE VALUABLE PORTFOLIO REPLY FORM ON REVERSE SIDE AND ENTER YOUR OWN SUBSCRIPTION TODAY

(Continued from page 155)

doors and windows

3-97. Barcol Overdoor Guide, 16-p. booklet giving information on line of industrial, commercial, and residential overhead-type doors. Specifications and instructions for preparation of building openings and installation of various models; typical examples of special installations where building conditions do not permit use of standard equipment. Detail drawings, photos, and installation layout of electric operator for overhead-type doors. Barber-Colman Co., Rockford, Ill.

3-98. Cupples Commercial Aluminum Windows, AIA 16-E, 32-p. catalog giving information on double-hung, projected, and ribbon-type aluminum windows. Typical installations, full-size sectional and mullion details, hardware data, photos, and short form specifications. Detail of special curtain-wall (aluminum or glass) construction with projected windows. Cupples Products Corp., 2650 S. Hanley Rd., St. Louis 17, Mo.

3-99. Presenting Eastern Drapery Hardware, 32-p. brochure describing line of drapery hardware including extension traverse rods, combination traverse and valance rod, drapery cranes, curtain rods, drapery hooks, sash rods, custom traverse tracks, and extender plates. Extension and projection dimensions, illustrations of models. The Eastern Venetian Blind Co., 1601 Wicomico St., Baltimore 30, Md.

3-100. Gate City Wood Awning Windows, AIA 16-L, folder containing 8-p. brochure, six detail sheets, and 8-p. installation manual covering line of wood awning-type windows. Schedule of sizes and types, specifications (windows and hardware), illustrated nine-step installation guide, and detail drawings covering metal horizontal weatherstripping, vinyl jamb weatherstripping, insulated glass, extension jambs, and multiunit assembly material. Gate City Sash & Door Co., P. O. Box 901, Ft. Lauderdale, Fla.

3-101. Truscon Aluminum Windows, AIA 16-E (A-649), 16-p. booklet with detailed data on casement and awning-type aluminum windows. Construction features, types, sizes, full-size sections, specifications, installation details for brick veneer, solid masonry, frame, and concrete block construction. Truscon Steel Div., Republic Steel Corp., Youngstown, Ohio.

3-102. Stanley Hinge Guide, AIA 27-B (H69), 12-p. catalog giving Underwriters' Laboratories' hinge requirements and discussing factors influencing selection of hinges. Illustrations and data for heavy-duty, average-duty, and low-frequency hinges, including full- and half-mortise and full- and half-surface types. Information on hinge metals and finishes, hinge tops and pins. The Stanley Works, New Britain, Conn.

electrical equipment, lighting

4-76. Ideas on Electrical Convenience for School, College, and University, 4-p. folder on wiring devices for educational institutions including rotary lock switches which prevent unauthorized tampering with lights and appliances; grounding-type outlets, caps, and receptacles for safe operation of portable tools, room air-conditioning units, electrical and maintenance equipment; weatherproof switches and outlets designed for outdoor use; and other devices such as special clock outlets, silent switches, and floor outlets. Illustrated. The Arrow-Hart Hageman Electric Co., Hartford 6, Conn.

4-77. Visual Comfort Index Data and Tables: Their Meaning and Use in Lighting Design (LS-108), 14-p. booklet by Phelps Meaker and R. L. Oetting containing index system indicating what percentage of persons will find direct view of specific lighting system comfortable in specified room. Values at 50 footcandles for 19 types of luminaires. Data on use of tables, appraisal and rating methods,

(Continued on page 160)

NOW...for the first time in the history of the building industry—a two-hour fire-rated acoustical ceiling.
Tested and approved by Underwriters' Laboratory
FYRATE SYSTEMS
A new and highly efficient method of combining 2-hour fire protection with mechanically supported acoustical tile ceilings — another step forward in safety and economy for modern building construction.
An Important Plus: The complete assembly provides, in addition to 2-hour fire-rated protection, thermal insulation with vapor barrier, and exceptionally high acoustical properties.
Write for complete data on tests.
FYRATE, INC.
FYRATE, Inc. Please send me complete information on U.L. tests of FYRATE.
NAME
COMPANY
ADDRESS
CITY ZONE STATE

p/a manufacturers' literature

(Continued from page 159)

glare factors. General Electric Co., Lamp Div., Nela Park, Cleveland 12, Ohio.

4-78. The GrateLite Story, 8-p. brochure giving details on construction and performance of plastic-grid louver-diffusers with ⅜" cubical openings. Advantages, photos showing installation of luminous ceiling at The Glenn L. Martin Aircraft Company and other installations. Drawings, photos, and charts. The Edwin F. Guth Co., 2615 Washington Blvd., St. Louis, Mo.

finishers and protectors

5-20. Protective Coatings by Ceilcote (C-150), 8-p. catalog with information on protective coatings for various industrial applications including base formulation, temperature resistance, abrasion resistance, chemical properties, adhesion, method of application, surface preparation, and colors. Chart shows resistance of each coating to 18 commonly encountered chemicals. Ceilcote Co., 4919 Ridge Rd., Cleveland, Ohio.

5-21. Gelvatex Coatings: First of the Vinyl Emulsion Paints, 8-p. folder on various vinyl emulsion paints for stucco, concrete, gunite, brickwork, plaster, drywall, and other applications. Description of primer, finish, pigmented wall sealer, and clear sealer. Special instructions for application over wood, metals, acoustical materials, exterior efflorescence, and masonry. The Gelvatex Coatings Corp., 1250 Wilshire Blvd., Los Angeles 17, Calif.

5-22. The Penetryn System, 26-p. brochure describing activities of engineering, research, and construction organization specializing in preserving, strengthening, and restoring masonry structures. Representative examples of work performed with photos of structures and discussion of individual problems and solutions. Photos and drawings. The Penetryn System, Inc., 2294 Scranton Rd., Cleveland 13, Ohio.

insulation (thermal, acoustical)

6-37. Reynolds Lifetime Aluminum Acoustical System, AIA 39-B (BP701-A), 4-p. folder with data on acoustical-ceiling system consisting of corrugated- and perforated-aluminum panels with sound-absorbing blanket above. Advantages, uses, results of sound-absorption tests, description of ceiling panels and accessories, installation instructions for suspended or direct attachment to ceiling. Photos, drawings, and charts. Reynolds Metals Co., Building Products Div., Louisville 1, Ky.

sanitation, plumbing, water supply

7-27. Piping for Permanence, 32-p. booklet presenting corrosion fundamentals of plumbing and heating systems. Analyses of wrought-iron pipe installations, review of essential piping properties, descriptions of individual service in building-piping systems, and recommendations to help reduce rate and severity of corrosion. Also, section dealing with water analysis and treatment. Engineering Service Dept., A. M. Byers Co., 1501 Clark Bldg., Pittsburgh, Pa.

specialized equipment

8-55. Automatic Devices Company, 23-p. catalog covering line of theatrical curtain tracks, controls, and accessories. Weights and dimensions, illustrations of models, assembly drawings, installation instructions, and suggested specifications. Selector guide enclosed. Automatic Devices Co., 116 N. Eighth St., Allentown, Pa.

DONALD REICHERT, Assistant Director of the George Walter Vincent Smith Art Museum, Springfield, Mass., has been appointed Assistant to the Director of the Yale University Art Gallery and Design Center.

Don't Miss This Great Book!

ROOTS OF CONTEMPORARY AMERICAN ARCHITECTURE

by LEWIS MUMFORD

Writer, Visiting Professor in Architecture, North Carolina State College

HERE is the first book to present in detail the original sources and contemporary criticisms that led to the development of modern architecture in America.

Essentially a series of essays by famous architects and critics, both living and dead, the book traces the modern tradition in American architecture from Horatio Greenough, who first formulated the doctrine of form-follows-function, to Matthew Nowicki, who re-formulated that doctrine in the light of a century's experience. Many important essays, little known or never republished, are included—Montgomery Schuyler's critique of the Brooklyn Bridge, John Burrough's pre-Wright description of the modern house, Calvert Vaux's early anticipation of new American forms—together with classic essays such as Sullivan's reminiscences of the great period of Chicago architecture and Hudnut's description of the post-Modern house.

Mainly by drawing on contemporary documents, Mumford's book presents a history of modern architecture over an entire century. By providing a background of ideas and a tissue of connections in the form of a special introduction by the author, this book will prove of unusual interest and value to the practicing architect, architectural student and general reader.

435 pages, $7.00

USE THIS COUPON FOR FREE EXAMINATION

REINHOLD BOOK DIVISION

Dept. M-722, 430 Park Avenue, New York 22, N. Y.

Please send me a copy of ROOTS OF CONTEMPORARY AMERICAN ARCHITECTURE by Mumford @ $7.00.

☐ Remittance enclosed.

☐ Send on free 10-day examination.

Name .....
(Please print)

Address .....

City .....Zone .....State.....

NOTE: You save postage and delivery charges by sending payment with order. Same return privilege guaranteed. Include 3% sales tax on N. Y. C. orders.

A touch of independence that's welcomed

HURT BUILDING
Atlanta, Georgia

Operatorless elevatoring with automatic program selection is the final step of a progressive modernization program in the 18-story HURT BUILDING. The 15 original car switch elevators were replaced by 11 Otis AUTOTRONIC elevators. Now, after the tenants have tried 3 operatorless elevators for several weeks, the remaining 8 elevators are being converted to operatorless operation with the tenants' enthusiastic approval.

HURT BUILDING is one of more than 175 new and modernized office buildings, hotels, hospitals, banks, and department stores that have given AUTOTRONIC elevatoring an overwhelming vote of confidence —by buying it!

Adams-Cates Company, Managing Agent

"How would my tenants react to operatorless elevators?"

This question is uppermost in the minds of building managers who are concerned with today's spiraling operational costs.

Why not ask your tenants?

Otis AUTOTRONIC elevators give tenants a sprightly feeling of independence. Riders simply step into the car and press buttons for the floors they want. Everything else is completely automatic.

We've found that tenants like the idea of self-service elevators. They push buttons for each other. They tell new riders what to do. Everybody's friendlier.

Tenants quickly accustom themselves to automatic door closing. The Otis Electronic Elevator Door inspires confidence with its "electronic politeness." A two-way communication system in the car keeps the riders from feeling alone. Employees feel more independent, especially when making frequent interfloor trips.

We'll be glad to help you explain Otis AUTOTRONIC elevatoring to your tenants. Call any of our 268 offices.

Otis Elevator Company, 260 11th Ave., New York 1, N. Y.

COMPLETELY AUTOMATIC
AUTOTRONIC®
ELEVATORING

stainless *is just what the doctor ordered*

From operating room to laundry room... kitchen to lobby – Crucible Rezistal® stainless steel can be the best friend a hospital ever had. Wherever you need a neat, attractive metal *that stays good looking* with little care – look to stainless by Crucible.

Curtain walls of stainless are outstanding, too. Stainless steel's exceptional ability to meet the most rigid fire tests, because of its heat-resisting properties, coupled with its inherent high strength, mean *lighter* construction, yet *maximum protection for patients.*

And, of course, the proved fact that stainless is so easy to maintain up to top sanitary standards... is so rugged that it can take any beating an overworked staff may give it – these factors have helped make Crucible stainless steel the popular, functional material in modern hospital design.

Let Crucible's experienced staff help you plan for the most effective use of this economical, practical metal. For quick, helpful suggestions – *call Crucible.*

CRUCIBLE first name in special purpose steels

54 *years of* Fine *steelmaking* **STAINLESS STEELS**

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

REX HIGH SPEED • TOOL • REZISTAL STAINLESS • MAX-EL • ALLOY • SPECIAL PURPOSE STEELS

Canadian Distributor — Railway & Power Engineering Corp., Ltd.

This corrugated, enameled, perforated, metal-panel system provides exceptional sound-control efficiency. Official AMA tests reveal that a noise-reduction coefficient as high as .90 can be obtained at 1000 cycles. Sliding panels measure 24" x 24" and 24" x 28". U. S. Gypsum Co., Dept. 136, 300 West Adams Street, Chicago, Ill.

Strips of Bakelite vinyl-resin-base plastisol attached to door allow door to sway freely while blocking fingers from the jamb. Strips are anchored with metal moldings to door and frame on each side of danger zone. Plastisol is homogeneously colored aluminum gray. Magic Door Division, The Stanley Works, 195 Lake Street, New Britain, Conn.

air and temperature control

Herman Nelson Unit Heater: new series of horizontal unit heaters designed to provide comfortable outlet temperatures on high-pressure, high-temperature steam systems. Heaters can be used on steam systems of pressures up to 125 psig and have capacities ranging from 385 to 5430 cfm (70° air), 17,400 to 228,000 Btu/hr (with 60° entering air and 2 psi steam pressure). Also suitable for forced hot-water heating systems. American Air Filter Co., Louisville 8, Ky.

G-E 98-B Weathertron: package air-source heat pump, designed for larger homes and commercial buildings and powered by two modulated 5 hp compressors. Unit will handle up to 3,000 cu ft of air per minute. Supplementing present line of 3 and 5 hp models, heat pump features completely sealed hermetic refrigeration system warranted for five years. General Electric Co., Weathertron Dept., Bloomfield, N. J.

Heil Lowboys: 1954 line of gas- and oil-fired furnaces are readily convertible from one fuel to the other and feature new octagonal heat exchanger design, matched and separated plenum openings, and free-floating fan division panels. Oil-fired units have new high-pressure burner, flange-mounted in rubber. Gas-fired models available with AGA input ratings of 80,000, 100,000, 125,000, and 150,000 Btu/hr; oil-fired models rated at 95,200, 112,000, and 123,200 Btu/hr at bonnet. The Heil Co., Milwaukee 1, Wis.

"K" Line Radiant Baseboard: new addition to line of radiant baseboards designed for residential and commercial heating. Full length back and top of one piece aligns entire baseboard assembly and supports all elements, as well as acting as barrier against heat loss into walls. Support bracket snaps into both back plate and return edge of top; slide cradle prevents coil from touching front or back plate. Accessories include end enclosures, access panels, inside and outside corners, joint covers, and dampers. Kritzer Radiant Coils, 2901 Lawrence Ave., Chicago 25, Ill.

Mitchell Dehumidifier: new electric dehumidifier for residential and commercial use heats as well as dries, incorporating 1,000-watt heating coil and high-speed fan. Unit removes from two to three gallons of water from room air in 24 hours, also circulates and filters air. Dimensions: 20-5/16" high, 12½" wide, 19⅝" long. Mitchell Mfg. Co., 2525 Clybourn Ave., Chicago, Ill.

Trade-Wind Ventilator: new fan for residential use, developing 300 cfm, employs axial flow principle of air movement. Three air-foil shaped blades or

(Continued on page 166)

p/a products

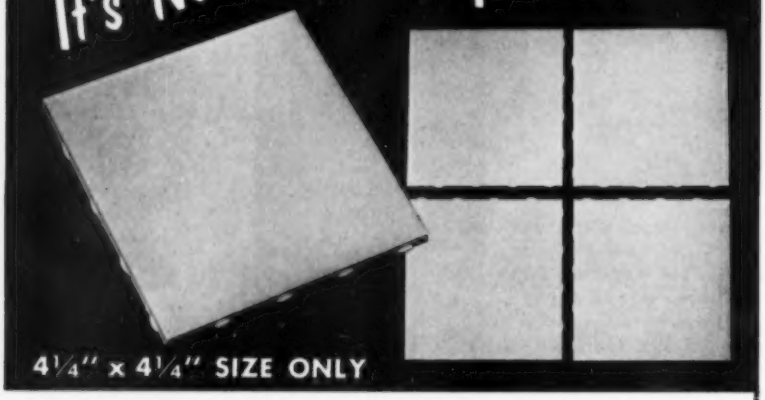
(Continued from page 163)

runners, mounted on hub of relatively large diameter, concentrate work on air to outer part of runners where greatest pressure is produced. Runner assembly is mounted in venturi-shaped housing. Housing measures 5½" high. Trade-Wind Motorfans Inc., 7755 Paramount Blvd., Rivera, Calif.

construction

Fire-Chex: new fire-resistant asbestos-plastic vapor barrier for built-up roof construction. Tests show vapor barrier checks melting and flowing of asphalt through joints in steel roof deck when exposed to intense fire from underside; materials form skeletal mat that remains in place. Made in rolls 38' long and 36" wide, vapor barrier can be specified for use with any type of built-up roof over steel, including 10-, 15-, and 20-year bonded roofs. The Philip Carey Mfg. Co., Cincinnati 15, Ohio.

ROMANY
SPACE-SET TILE
It's New! It's Better!



4¼" x 4¼" SIZE ONLY

A noteworthy advance in tile design, with the following exclusive advantages:

POSITIVE SPACING — Each spacer working independently provides for full width of the joint. Automatically allows for proper spacing between trim and flat tile.

FLEXIBILITY — Four spacers on each side permit easier setting of fractional cut tile, etc. The spacers are arranged so that the tiles may be set straight or broken joint.

DESIGN — Spacers are designed to withstand rough treatment, and so that maximum grout can be forced into the joint. Space-Set tiles can be set with a string if a wider joint is desired.

All of Romany's outstanding features have been retained, including: Strong Buff Body, Size and Shade Control, Beautiful Colors, Enduring Glazes, Cushion Edge, Low Absorption, Versatility.

Correspondence Invited

for the specification consider these features

ROMANY IS:
FIRE PROOF
WEAR PROOF
FADE PROOF
SCRATCH PROOF
ACID PROOF

And is available in more than 30 attractive colors.

UNITED STATES QUARRY TILE CO
Member Tile Council of America and Producers' Council, Inc.
217-G FOURTH ST., N.E., CANTON 2, OHIO

Sealing Tape: special elastic-compound tape of high compressibility for sealing small-gage metal seams. Moldable sealer is extruded in beads or tapes around light tobacco cloth core. In bolting or riveting operations, sealer reduces tendency of thin plates to buckle. Material is nonstaining and highly resistant to water and water vapor. Presstite Engineering Co., 3798 Chouteau Ave., St. Louis 10, Mo.

doors and windows

Cookson Counter Door: new extruded-aluminum, slat-type rolling counter door with "Alumilited" finish for use in schools, offices and other public and industrial buildings. Doors are custom-made in widths to 20', with removable crank-operating mechanism recommended for widths over 10'. Slats are .048" thick and 1-5/6" wide; door is counterbalanced for fingertip operation. The Cookson Co., 1525 Cortland Ave., San Francisco 10, Calif.

Aluminum Narrow-Stile Entrance: new addition to line of aluminum entrance doors has "identification" push-pull hardware into which plates of plastic, metal, or wood can be inserted in order to identify and personalize commercial and institutional buildings. Other innovations include new deadbolt lock and improved extended tubular construction of frame members, eliminating exposed seams and screws of split frame. Both single- and double-acting units. The Kawneer Co., Niles, Mich.

Val-u-Line Doors: new line of narrow stile architectural aluminum doors and entrances without exposed fastenings. Standard 1-5/32" lock cylinders, snap-in glass stops, pile weatherstripping at meeting stiles on pairs of doors. Stock lengths of frame members available for special construction. Variety Mfg. & Engineering Co., 810 W. Fulton St., Chicago 7, Ill.

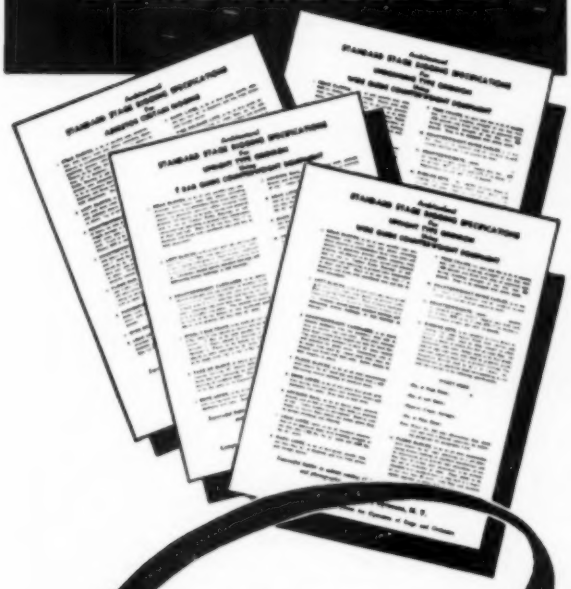
Weslock Hardware: new series of locks and combination pulls for sliding pocket doors available in four models: passage set for doors where no locking is required; privacy lock for bedroom and bath with turnbutton one side and emergency release; privacy lock with turnbutton one side and inside safety plate; and privacy lock for connecting rooms with turnbutton both sides. Locks are reversible, fitting right and left handed doors from 1⅜" to 1¾" thick. Western Lock Mfg. Co., 211 N. Madison Ave., Los Angeles 4, Calif.

electrical equipment lighting

Gibson MP-45 Lighting Fixture: new fixture, designed especially to meet new American School Standard, has 45° x 45° shielding. Reflector surfaces are kept clean by convection currents created by lamps. Louver assembly may be dropped from either side, either end, or removed completely for relamping. Fixture is adaptable to all types of mounting. Metal or plastic side panels; spring steel louvers. Gibson Mfg. Co., 1919 Piedmont Circle, N. E., Atlanta, Ga.

(Continued on page 166)

Standard Specifications for STAGE CONSTRUCTION



Send Coupon for FREE COPIES

These standard specifications are the result of more than 76 years of designing and building stages that are completely safe, flexible and easily operated — for present and future requirements.

With these specifications, the architect is assured a stage — in theatre, auditorium or school — which not only meets every contemplated use of the stage and every building code involved, but which will be a definite credit to the profession. Many architects have told us, "These are the kind of specifications that are really valuable to us." Send the coupon or write for your copies.

World's Largest Designers, Manufacturers and Riggers of Stage Equipment.

J. R. CLANCY INC.
1020 W. BELDEN AVE. SYRACUSE 4, N. Y.

Please send ____ sets of "Standard Stage Specifications."

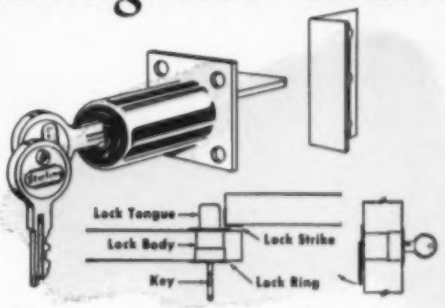
Firm .....

Street .....

City ..... *Zone* ..... *State* .....

No Job too Large • No Job too Small

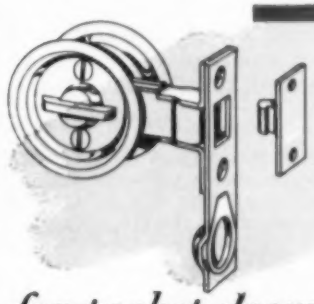
New! Sterling® *sliding door locks...*



for by-passing doors

The first sliding door lock for by-passing doors. Now closets can be locked and contents kept secure from pilferage. Designed on a revolutionary new principle. One half turn of key raises tongue to locked position or returns it to unlocked position. Cylinder is geared to tongue and action is positive. Simple to install—bore one hole. Fits ¾" to 1¾" doors.

Sterling HARDWARE®



for pocket doors

A new type of lock for bathroom or bedroom doors. Privacy is assured by turning locking button on inside. Emergency button on outside permits unlocking with screw driver or coin. Neat, simple installation. Fits 1⅜" or 1¾" doors.

Sterling means Quality

STERLING HARDWARE MFG. CO.
Chicago 18, Illinois

SEE OUR CATALOG IN SWEET'S:
Architectural File • Light Construction File

VISIT OUR DISPLAYS: Architects Samples Corporation, N.Y.C.
Chicagoland Home Building Center, 130 W. Randolph St.

No recess for *Terrazzo*

. . . nor does it need any. Capable of withstanding the day-in, day-out punishment of scuffling school-goers, TERRAZZO needs no consideration. It repays builders' foresight with long life and low upkeep. It is useful for floor, baseboard, wainscot, and stairway. Low-annual-cost TERRAZZO offers these advantages:

1. ECONOMY

Initial cost is offset by freedom from repairs, replacements, and excessive upkeep over a period of years. This is usually far less than the long-range cost of other types of floors, since repairs, replacements, and upkeep are added to their initial cost.

2. COMFORT

Finished TERRAZZO is easy to walk on, less slippery than any waxed surface.

3. CLEANLINESS

TERRAZZO can be sealed so as to be practically non-absorbent. Its smooth, unbroken surface cleans easily, harbors no accumulation of germs, paves the way to aseptic cleanliness.

4. COLOR AND DESIGN

TERRAZZO has warmth and beauty. Specify any design, pictorial or geometric, in virtually any combination of colors.

5. DEPENDABLE INSTALLATION

This Association's objective is to see that TERRAZZO installations turn out exactly as wanted. Write us today for complete information on the above points, or see our advertisement in Sweet's.

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION, INC.

SHERATON BLDG. 711 14th STREET, N. W. WASHINGTON 5, D. C.

p/a products

(Continued from page 164)

Holophane Corridor Luminaires: new luminaire for corridor areas has totally enclosed prismatic-glass refractor bowl and ceiling-type fitter. Bowl redirects useful light to ceiling, walls, and floor; 150-watt A-23, 2650 lumen inside frosted lamp. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.

Sono-Lume Fixture: fluorescent lighting fixture with perforated steel wings behind which are installed blankets of preformed glass fibers. Fixtures are available in 4′ and 8′ lengths with either all plastic shielding or louver assembly having 35° crosswise and 45° lengthwise shielding. Preheat, instant, or rapid-start series ballasts. Fixtures, surface-mounted to ceiling, should be installed in continuous rows only, with 6′ maximum center-to-center spacing. Sylvania Electric Products Inc., 1740 Broadway, New York, N. Y.

insulation, thermal (acoustical)

Insul-Attic: reinforced asbestos insulation material laminated with aluminum foil can be tacked or stapled to wall and overhead studding. Fireproof and rodent-proof, material may be used for commercial or residential installations. Available in four types, depending upon application, and in 100 sq ft rolls, 18″ and 36″ wide. Abbeon Supply Co., 179-21 Jamaica Ave., Jamaica 32, N. Y.

sanitation, plumbing, water supply

Pressure Booster: centrifugal pump, installed directly in lead-in pipe from water main, is operated automatically by switch which detects changes in water pressure. When city water pressure drops below minimum setting, switch starts pump to increase water pressure. Pumps range in size from small residence pressure booster to those required for large multistory apartments or hotels. Bell & Gossett Co., Morton Grove, Ill.

specialized equipment

Sit-Down Elkay Sink: new stainless-steel kitchen sink in two models has shallow, sit-down bowl with knee room underneath. Available in 72″, 84″, and 96″ lengths for conventional counter arrangement or in 40½″ x 54½″ peninsula models for either island or peninsula installation. Latter has two deep bowls for normal rinsing and dish washing and shallow one for sit-down use; counter model has one deep bowl and one sit-down bowl. Elkay Mfg. Co., 1874 S. 54th Ave., Chicago 50, Ill.

Fire Valve: roof unit for industrial buildings opens quickly when excess interior heat occurs. Each unit of valve provides 46 sq ft of free area opening when two large dampers drop, released by fusible link device. Dampers can also be opened and closed by loop chain if extra ventila-

tion is desired. Unit is weatherproof when closed. Any number of fire valves can be installed on a roof to meet recommendations of fire and insurance authorities. The Swartwout Co., 18511 Euclid Ave., Cleveland 12, Ohio.

surfacing materials

Stairtread Tile: structural clay tile treads, for stairways in industrial and commercial buildings, schools, hospitals, and other public buildings, require from 40 to 50 percent less steel than commonly used with metal type stairs. Tread and riser are made in separate units. Standard units provide tread widths in fractional increments from 10″ to 12¼″ and riser heights from 4″ to 10″. Natco Corp., 327-29 Fifth Ave., Pittsburgh 22, Pa.

A.B.C. Gym Floor Cover: cotton duck floor covering for protection of gymnasium floors when gymnasium is used as auditorium. Material lays flat in long strips, is processed to resist flame, moisture and mildew. Neutral color; easy to handle and store. American Brattice Cloth Corp., Warsaw, Ind.

Wooster Stairmaster: new stairway safety tread made with extruded lightweight aluminum alloy base in standard 9″ depth and furnished in length as required. Eleven rows of safety ribs contain diamond hard abrasive grains; 1⅛″ lip covers and protects face of stair tread. Screws or combination screw and lead shield are used to fasten tread to any type of stair. Wooster Products Inc., Wooster, Ohio.

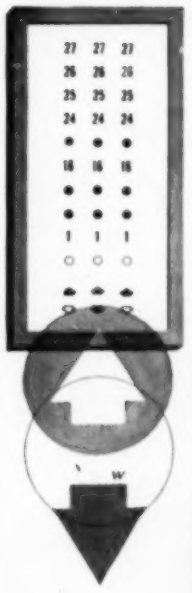
Harborite: new plastic-faced fir plywood building panel designed for use as siding and interior paneling in homes, schools, offices, stores, restaurants, and other commercial structures. Medium-density, waterproof phenolic resin plastic face is permanently bonded to panel under heat and pressure. Panels, with solid inner-ply construction and machine-edged cross-banding, come in standard 4′ x 8′ sizes. Face is marked with vertical grooves spaced 4″ to 12″ apart. Harbor Plywood Corp., Aberdeen, Wash.

Robco "3/8 Vitrineer": new lightweight ceramic veneer for exterior or interior walls and other uses is produced in 12″ x 16″ and 16″ x 24″ sheets ⅜″ thick. Available glazed or unglazed, in plain or pattern finish. Sheets are cut with carboloy scribing tool or masonry saw. Weight: 4 psf. Robinson Brick & Tile Co., 500 S. Santa Fe Dr., Denver 23, Colo.

Stoncap: resilient flooring material designed to resist grease, oil, and other destructive agents. Mixture of liquid and special aggregate is troweled ¼″ deep over wood, concrete, or composition floors. No primer is necessary. Floors can be used 24 hours after application. Stonhard Co., 601 Stonhard Bldg., 1306 Spring Garden St., Philadelphia 23, Pa.

THE MARK OF EXTRA DEPENDABLE BUILDING EQUIPMENT MACHINERY

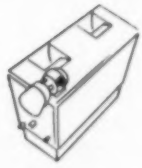
ED ELECTRO DYNAMIC



The red "power spot" on building and elevator machinery means *powered by Electro Dynamic*, the most dependable motors *ever* available to industry.

For *proof* of this *extra dependability* send the coupon below for your copy of **"MOTOR SHOWDOWN"**, a new candid report on comparative results of motor performance tests* conducted in accordance with A.I.E.E. standards.

*Tests certified by J. Arthur Balmford, Professor of Electrical Engineering at a leading Eastern university.



ELECTRO *Extra* **DYNAMIC** *dependable motors*

1 to 250 hp. AC and DC. Standard or special purpose. N.E.M.A. standards.

ELECTRO DYNAMIC • *Division of General Dynamics Corporation*
142 Avenue A, Bayonne, New Jersey

Please send me a copy of "MOTOR SHOWDOWN" and the new catalog of Electro Dynamic industrial motors.

NAME_____

COMPANY_____

ADDRESS_____

ANOTHER

AGITAIR

PATENTS APPLIED FOR

for BETTER AIR

it's ADJUSTABLE

AIR DEVICES INC., 185 MADISON AVE., NEW YORK 16, N. Y.

by Carl Feiss

out of school

"The crux of architectural education is the necessity of teaching enough simple variations on mediocrity to disguise it successfully. No genius can do this, as he is properly impatient with clodhoppers and peasants. Only one who has devoted a dull life to the enthusiastic pursuit of the commonplace can direct the docile minds of the young into such sluggish and ever-blossoming channels—lotus blossoms. My aim is to do for the Muse of Architecture what Lydia Pinkham did for American Womanhood. And by similar ministrations, 86 proof."

Cactus Joe, Cattle Creek Crossing, Colorado

Despite the above, cynical outburst, Cactus Joe, the Dean of Architecture at Theleme, and all the other devotees of Lally Ionica, the Muse of Architectural Education, are back in the cloisters for the new school year. Advance registration guesstimates will be scrutinized as this column hits the newsstands; scholars will be wandering back from their summer pilgrimages to the shrines of learning; and everybody will be too busy to read what I write with the accustomed fervor. It's too bad!

By this time, all my readers will know that in June was published* the Report of the Commission for the Survey of Education and Registration of the AIA. It is in two volumes: The first and most important is called *The Architect at Mid-Century—Evolution and Achievement* and was edited by Turpin Bannister; the second, *The Architect at Mid-Century—Conversations Across the Nation* was edited by Francis Bellamy.

It is my hope that by this time most of you will have dipped into the Report. If not, you owe it to yourselves to do so at once. Dr. Burdell and his team of experts, after four and a half years of diligent work, have produced a document which, if put to work, may do much to revive the spirits of architecture in this country and could, if many of the recommendations are followed, remedy faults known to exist in the education and practice of architecture and the institutions and associations which are intended to support the profession. Much of the credit for the success of the Report, its fine editing, and a fair number of its brilliant passages, is due to Turpin Bannister, who labored long and lovingly over the whole Report. The AIA and the profession at large owe to him, to Bellamy, and to Walter Taylor, Director of the Department of Education and Research of the AIA (who managed the operations and production end), a lasting vote of thanks. To Dr. Edwin S. Burdell, the Chairman of the Commission, president of Cooper Union, a non-

(Continued on page 176)

* The Architect at Mid-Century. Vol. I: Evolution and Achievement. *Edited by Turpin C. Bannister. 513 pp., $8.75.* Vol. II: Conversations Across the Nation. *Edited by Francis R. Bellamy. 260 pp., $5. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1954.*

For longest service... for good appearance

St. Patrick's Academy, Chicago, Illinois
Architects & Engineers: Belli & Belli
Plumbing Contractor: L. G. Keefe

Clow "IPS"* (threaded) Cast Iron Pipe...the pipe that never needs to be replaced

The long life... and long lengths of Clow "IPS" Cast Iron Pipe made it the choice of the architect for all downspouts, vents and waste lines 3" and over in this handsome new school building. The non-corrosive characteristics of "IPS" assure trouble-free service for the life of the building. Its 18-foot lengths permit trim, attractive installations.

*Iron Pipe Size O. D.

Clow (threaded) Cast Iron Pipe has same O.D. as steel pipe, is available with plain or threaded ends, in 3, 4, 5, 6, 8, and 10" sizes in 18' random lengths. Also available with integral caulking hub on one end (other end plain) in 18' random lengths in 4, 6, and 8" sizes.

Clow Cast Iron Pipe can be...

on the job, with ordinary tools of the piping trade.

JAMES B. CLOW & SONS
201-299 North Talman Avenue • Chicago 90, Illinois

WHOLESALERS OF PLUMBING AND HEATING SUPPLIES
Publishers of the Clow Bulletin

MAIL THIS COUPON FOR YOUR NEW ENTRANCE-PLANNING MANUAL

REVOLVING DOOR DIVISION
INTERNATIONAL STEEL COMPANY
2003 EDGAR STREET, EVANSVILLE 7, INDIANA

Send me without cost or obligation my personal copy of the new International "Entrance-Planning Manual":

NAME AND POSITION _____

FIRM _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

REVOLVING DOOR "LUXURY" LOWERS OPERATING COSTS

Arthur Tennyson, Pittsburgh: Architect

THROUGHOUT THE BIGELOW, only permanent dwelling-type apartments in downtown Pittsburgh, the emphasis is on comfortable and luxurious living. But this accent on "ease of living" is only one of many reasons why you enter the Bigelow through revolving doors.

Its twenty-story height plus a considerable front exposure . . . its wide impressive lobby plus a first floor primarily given up to service shops . . . its complete air conditioning plus its busy downtown location — all combine to make revolving doors a necessity, not a luxury.

Consider, for example, the problem of stack draft that always plagues a structure of this height. Because they are "always open — always closed," revolving doors eliminate all stack drafts. By the same token, they seal out summer heat and winter cold. Outside dust, dirt, soot and grime are kept outside. All lobby space is made comfortably usable right up to the doors. Yet maintenance cost of a modern revolving door entrance is minimum.

These are typical advantages that make revolving doors a sound self-paying investment for long-range rentability . . . a specification that merits your consideration when planning any business or commercial building. The above coupon brings you a bookful of helpful data on both Revolving Door and Swing Door Entrances by International. Send for your personal copy *now*.

INTERNATIONAL
ALWAYS OPEN ALWAYS CLOSED
VAN-KANNEL

REVOLVING DOOR DIVISION
2003 EDGAR ST. EVANSVILLE 7, IND.

INTERNATIONAL STEEL COMPANY

out of school

(Continued from page 169)

architect but a lifelong friend of architecture and coworker with many of us (as well as a former professor of mine at MIT many long years ago), a 20-gun salute and the highest accolade for a hard job well done!

This column will devote its energies, from time to time, to a discussion of some of the 43 Recommendations of the Commission, of which a large percentage relate directly to education (and nearly all, indirectly: it is hard to separate one from the other). You will find the main body of Recommendations in Chapter XI *(page 441)* of the Report. Each recommendation has (attached) the page number in the body of the Report, where the subject discussed is given the most emphasis. You had better read back.

Chapters IV *(from page 81)* through VIII *(to page 349)* are devoted almost exclusively to architectural education; with Chapter IX dealing with Professional Registration and Chapter X picking up Research and Graduate Studies. Approximately 270 pages are devoted to the collegiate training of architects—the history, process, curricula, and mechanics. The number of pages, the equivalent of a standard novel, would not seem important except that by some kind of magic a subject which could have been dull, is treated with vitality, wisdom, and a scattering of sparks.

Since the first announcement of the Survey Commission's undertaking, my constant readers will recollect that we have followed the progress of the study with frequent comments, and an occasional jibe at slow progress. In the August 1951 issue we scooped the AIA with the educational portion of Dr. Burdell's "Progress Report," delivered in part at the Chicago Convention of the AIA. In that column I made an unfortunate forecast, based as I remember, on the usual "good authority," and said, "The final report of the Survey, with opinions and recommendations, will be available to members of the profession and to the public by the end of this year."

In September 1952, we devoted space

(Continued on page 172)

HEAVIER SECTIONS

of

EXTRUDED ALUMINUM

Make Ualco Awning Windows

ARCHITECT-QUALITY!

Ualco®
U-AL-CO

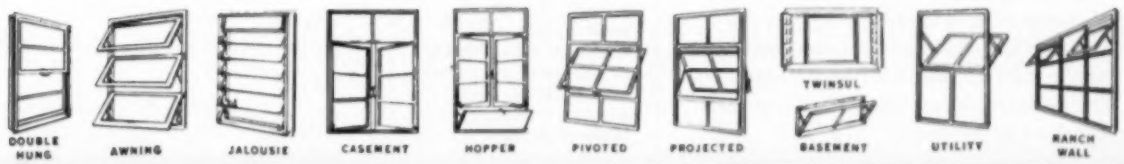
ASK ABOUT OUR ENGINEERING PLANNING SERVICE. DESIGNED TO ASSIST ARCHITECTS, ENGINEERS AND CONTRACTORS IN MAKING "TAKE-OFFS" AND SOLVING WINDOW PROBLEMS.

These awning windows do the job no matter what your commission—residential, commercial or institutional! That's because they're made of heavier extruded 63S-T5 aluminum! Ualco Awning Windows are precision-engineered, job-tested in buildings of all types. They never rust, rot or need painting. They'll do justice to your designing skill and remain a lifetime tribute to your reputation!

OTHER FEATURES: Exclusive Strip-Proof Operator unlocks, opens, closes and locks vents in any position up to 90 degrees. Completely weatherstripped with Koroseal. For night or inclement weather ventilation, lower vent opens slightly while upper vents remain closed and locked. Integral fin completely surrounds window, takes brick fin and fin trim. Jiffy Quick Sill Clips slide in channel from each side; locate as many as wanted, where wanted. Easy to clean from inside.

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE 16A OR WRITE US FOR COMPLETE INFORMATION

SOUTHERN SASH SALES & SUPPLY CO. • SHEFFIELD, ALABAMA



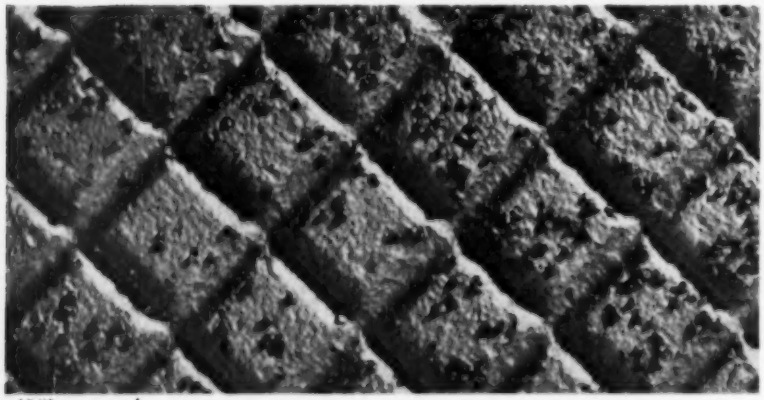
Ualco THE WORLD'S LARGEST MANUFACTURER OF ALUMINUM WINDOWS

There is no "or equal" for

FERALUN
ABRASIVE TREADS

Here's the proof of **FERALUN** *superiority*

★ Here is an unretouched photograph of a *Feralun* tread taken after acid treatment. (Paint is removed and acid is used to eat away the metal base so as to isolate the actual abrasive content of the tread.) Note the full and even distribution of abrasive—for greater safety, longer wear.



AB 119

★ Here is an unretouched photograph of an abrasive tread, purchased on the open market of the type often offered as an equal of Feralun, after the identical acid test. Note the meager amount of abrasive and spotty distribution.

The life and non-slip effectiveness of any abrasive tread is approximately proportional to the amount of abrasive embedded in the surface. Feralun has provided lasting safety—free from maintenance—for the past 35 years.

Feralun is available as treads, thresholds, floor plates and elevator sills. Also in Bronzalun, Alumalun and Nicalun. See Sweet's Catalog 1954—12b/Am.

AMERICAN ABRASIVE METALS CO. • IRVINGTON 11, N. J.

out of school

(Continued from page 170)

to Dr. Burdell's second speech on the Survey before an AIA Convention, this time in New York. Since then, we have frequently discussed progress on the Report. This does not make us an expert, I hasten to add, but we are and have been a constant and interested spectator. An expert on the Report would have sat in on it from the beginning. He would have met with Andrew Frazer and the adding machines; with Dr. Burdell on the many "Conversations"; and with Turpin Bannister and Walter Taylor on the limitless editorial rewrites. I was privileged to receive the semifinal draft of the whole Report two years ago; and a comparison of this with the published job reveals how extensive was the study and restudy of its contents. While the Report was excruciatingly slow in getting completed, the final result seems to justify the delay. Recommendation No. 43 *(page 449)* urges a decennial survey of the profession and that the next one be conducted in 1961. I certainly concur, and, considering the time it took to complete this first job, I hope the AIA establishes the mechanism for the second at once. Of course no one knows whether the AIA will do anything about the findings of the Report just published, but both the educator and the practitioner stand to benefit by the information contained in it.

The recommendations of the Commission fall into four general categories:

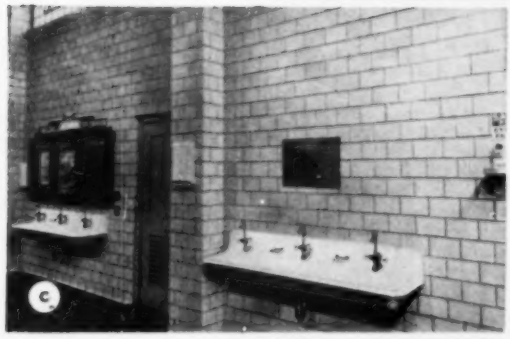
1. Recommendations on the practice of architecture.
2. Recommendations on education from elementary school well into professional practice.
3. Recommendations on registration and licensing.
4. Recommendations on AIA organization and the development of co-operative and co-ordinated relationships with the NCARB, ACSA, and NAAB. (There are also specific recommendations directed to the specialized activities of the last three organizations.)

•

It is well at this point to quote the attitude of the Report *(page 442)* on the condition of architectural education:

(Continued on page 176)

versatile...
time-proved



STARK

glazed facing tile

A. Lobby Entrance, Whipple Heights School, Canton, Ohio. Architects: Walter Caldwell & Associates, Cleveland

B. Radiology Department, North Shore Hospital, Manhasset, N. Y. Architects: Isadore Rosenfield

C. United States Steel Corporation, Fairless Works, Morrisville, Pa.

D. Cafeteria, Archbishop Stepinac High School, White Plains, N. Y. Architects: Eggers & Higgins

E. Staten Island, N. Y., Ferry Terminal. Architects: Madigan-Hyland

F. Corridor, St. Jean De Dieu Hospital, Montreal, Quebec, Canada. Architects: Brais & Savard

School, hospital, public or industrial building—there's a wide variety of architectural requirements which Stark Glazed Facing Tile can meet with equal success.

And you can depend on Stark's quality. This rugged, pre-finished material is made from the finest clays, glazed, graded and inspected to maintain consistently high standards. It has been proved in many thousands of fine buildings erected over the past 40 years.

This single structural material gives your clients these multiple advantages—

INITIAL SAVING *of a fast-building, modular wall-and-finish-in-one.*

LONG-RANGE ECONOMY *of easy cleaning, durability, no redecorating.*

LASTING BEAUTY *of fired-in colors that help fit surroundings to task.*

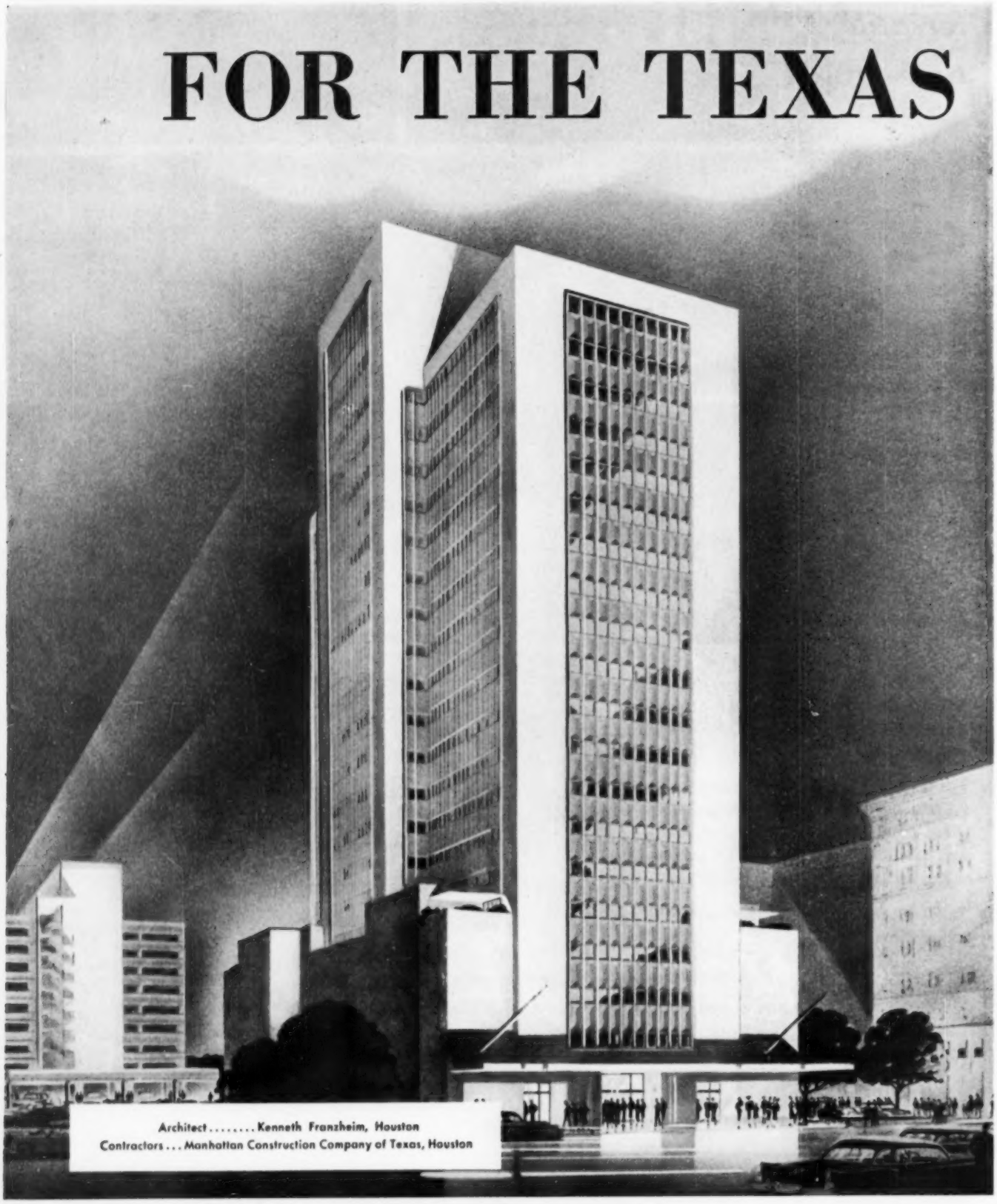
NEW CATALOG—A copy of our new catalog showing shapes, sizes, short form specification, etc. is available to you without cost. Address Dept. PA-9.

Ceramics, Inc., Canton 1, Ohio

14305 Livernois Avenue, Detroit 4, Michigan • 15 East 26th Street, New York 10, N.Y.

FTI

FOR THE TEXAS



Architect..... Kenneth Franzheim, Houston
Contractors... Manhattan Construction Company of Texas, Houston

WHEELING CORRUGATING COMPANY • BUILDING

NATIONAL BANK

...it's Wheeling Steelcrete Bank Vault Reinforcing!

Steelcrete®

In true Texas tradition, the new Texas National Bank Building in Houston, is one of the most modern and versatile in the southwest. Built at a cost of over 9½ million dollars, the 21-story structure employs the latest techniques in light-weight construction.

Still greater economies in construction were made possible because of the use of Wheeling Steelcrete Bank Vault Reinforcing. For not only did Wheeling Steelcrete provide maximum protection, but it also reduced the thickness of the concrete by 9", which, in turn, reduced the entire building height by 9"—a considerable saving.

The complete line of Wheeling building materials includes Steelcrete Reinforcing Mesh, Expanded Metal, Metal Lath and Accessories, Tri-Rib Steel Roof Deck, ExM Angle Frame Partitions, Steelcrete Vault Reinforcing, Cop-R-Loy Galvanized Sheets, and SofTite Galvanized Sheets.

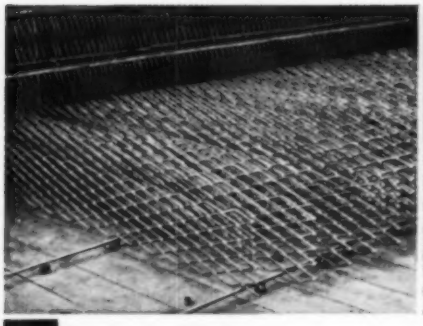
WHEELING CORRUGATING COMPANY, WHEELING, W. VA.

Warehouses and Offices

Atlanta	Chicago	Houston	Minneapolis	Philadelphia
Boston	Columbus	Kansas City	New Orleans	Richmond
Buffalo	Detroit	Louisville	New York	St. Louis

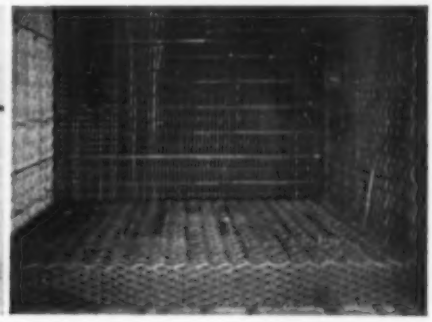
W Wheeling

Steelcrete's unique formation distributes concentrated loads over a larger area.



Sturdy, interlaced Steelcrete gives concrete exceptionally strong reinforcing.

Steelcrete's lateral rigidity makes possible longer spans, easier assembly.



MATERIAL DIVISION • WHEELING, WEST VIRGINIA

Safer than Slippery Flooring

A matador is aware of the risks in his job but because SLIPPERY FLOORS GIVE NO WARNING—often look safe—workmen can be killed or hurt before they know *their* danger! A practical remedy is A. W. SUPER-DIAMOND—tough, rolled-steel floor plate with an exclusive, engineered raised-diamond surface. SUPER-DIAMOND puts 40 anti-slip traction points in every foot-step—gives maximum foot safety at low cost. Investigate SUPER-DIAMOND for accident prevention. Write for new Booklet SD-25.

A.W. SUPER-DIAMOND

Economy Rolled Steel Floor Plate

ALAN WOOD STEEL COMPANY

CONSHOHOCKEN, PA.

Other Products: A.W. ALGRIP Abrasive Rolled Steel Floor Plate Plates • Sheet • Strip • (Alloy and Special Grades)

out of school

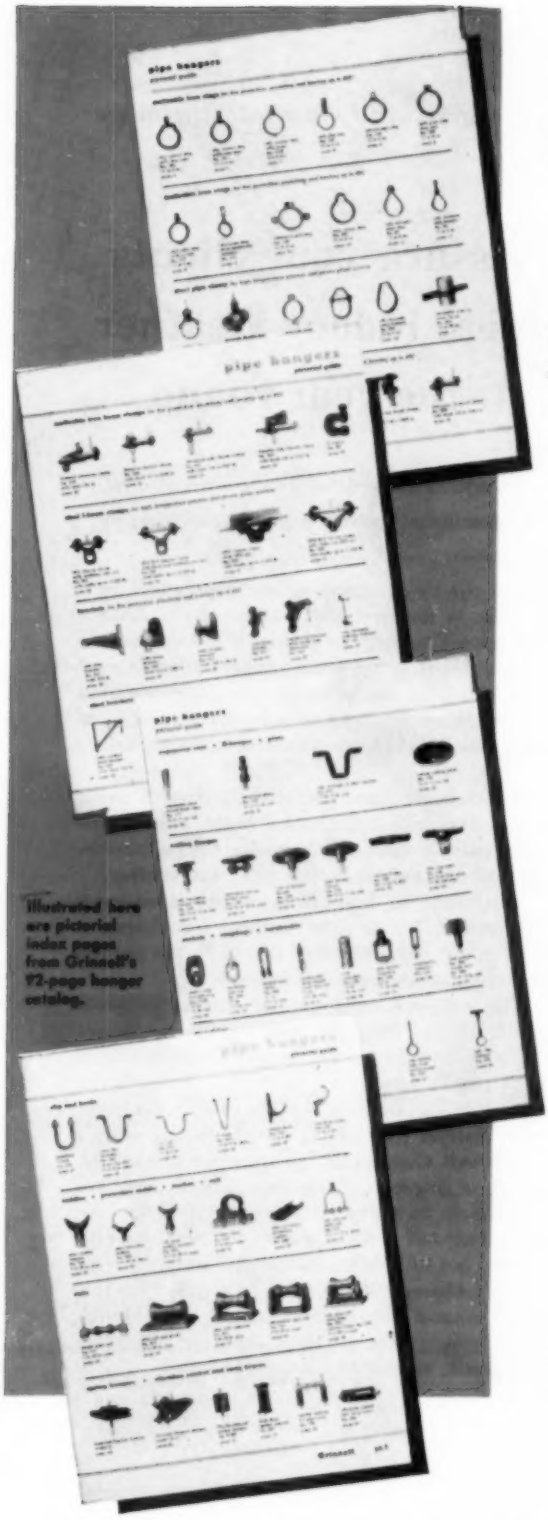
(Continued from page 172)

"In general, the Commission found that existing over-all programs of architectural education and registration are soundly conceived and, on the whole, effective in terms of familiar criteria. No revolutionary change seems to be demanded. On the other hand, the Commission is convinced that what is needed throughout is intensification, systematization, refinement, and deepening. Such measures are needed because professional education, like architecture and practice themselves, has reached a stage in its evolution in which new demands for functional efficiency make evaluation and integration imperative. While certainly rigid formulization should be avoided, it is also true that the day of *laissez-faire* should be definitely ended.

"This process of renewal should be directed toward all phases of education for practice. Recruitment needs validated aptitude tests and preliminary guidance. The professional schools need to raise the effectiveness of their instruction by improved teaching methods, aids, and facilities, by intensifying content and coverage, and by firmer integration of content and methods both within the curriculum and with regard to candidacy and practice. These objectives imply a more highly trained and specialized faculty, operating under more equitable teaching loads. This, in turn, raises the problem of increased resources based on larger budgets and on more economical units of enrollments. Candidate training must likewise be given real efficiency. Licensing and registration need similar measures. The degree of competence to be demanded for initial licensure requires explicit definition. Licensing examinations need close study with regard to the validity and reliability of their content and administration. Finally, the profession must undertake a thorough, comprehensive, and continuing program designed to expand the capacities of all its members through new knowledge won by research and disseminated by effective organization of advanced professional education."

There is one other sentence of great significance added as a final fillip to this

(Continued on page 180)



Illustrated here are pictorial index pages from Grinnell's 92-page hanger catalog.

Grinnell has the right hanger for every pipe in the building

Piping serves as the arteries and veins of your building. You specify your piping systems with care, for long life and dependable service.

But the best piping system is no better than the pipe hangers that support it.

Grinnell Pipe Hangers are engineered to meet most exacting requirements . . . from simple water piping to high pressure, high temperature steam lines.

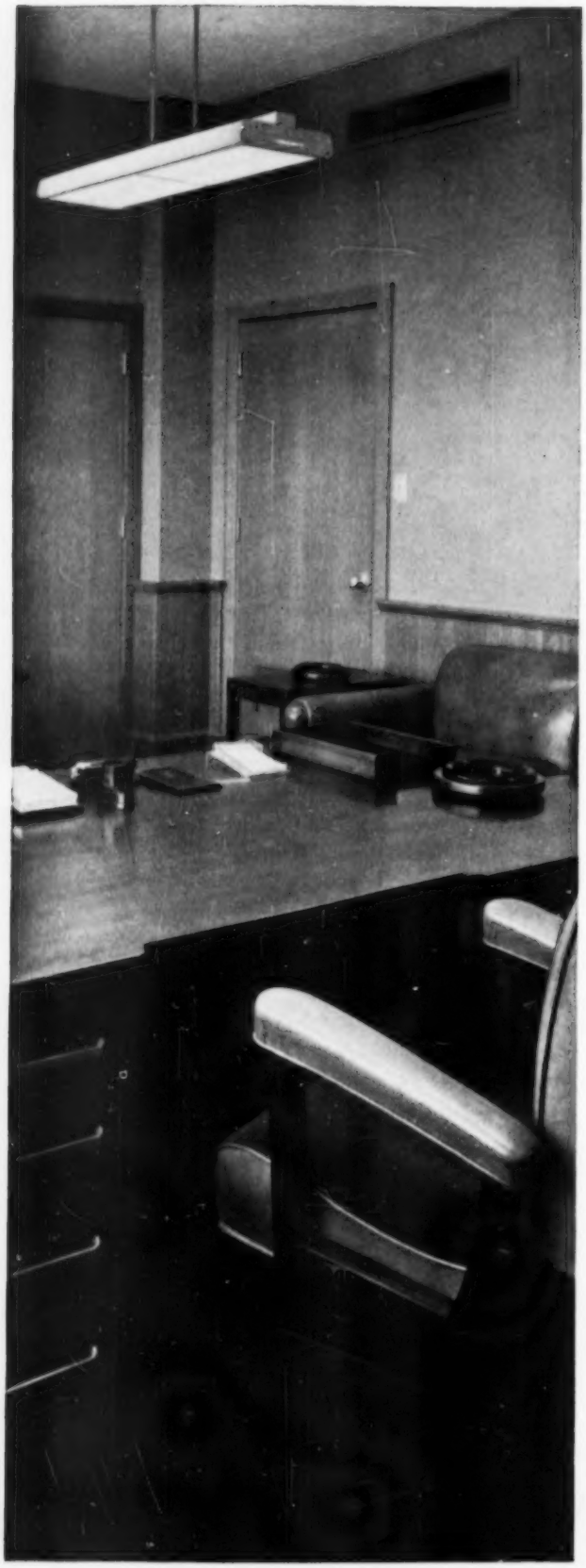
No other company makes a line of hangers as complete — or offers a distribution set-up as thorough or efficient. Through Grinnell's coast-to-coast system of strategically located warehouses and jobbers, you can purchase Grinnell Hangers "out of stock", anywhere. And if some detail of piping arrangement makes it necessary to deviate from hangers of standard design, Grinnell will design and manufacture hangers to meet your special needs.

Specify Grinnell pipe hangers — for complete reliability, modern, practical design and nation-wide service. For further details, write Grinnell Company, Providence, Rhode Island.

GRINNELL

AMERICA'S No. 1 SUPPLIER OF PIPE HANGERS AND SUPPORTS

GRINNELL MAKES AVAILABLE A COMPLETE LINE OF PIPING SUPPLIES, INCLUDING:
pipe and tube fittings • welding fittings • unit heaters • valves • pipe prefabricated piping • plumbing and heating specialties • industrial supplies
Grinnell automatic sprinkler fire protection systems



How Honeywell Customized Temperature Control can help you

Assure your clients ideal Indoor Weather –the year round

Honeywell Customized Temperature Control is becoming a "must" in all types of buildings

IF all the air conditioning and ventilation duct-work in the new home office of the Allstate Insurance Company in Skokie, Illinois, were laid end to end, it would make a tunnel 2½ *miles long.*

Which is by way of saying how important ideal Indoor Weather is at Allstate–for hundreds of employees handling the affairs of 2,500,000 policy holders.

Another important part of the Indoor Weather installation in Allstate's new home office is the *Honeywell Customized Temperature Control* installation, which controls both heating and cooling.

The story, in brief form, of the Honeywell Customized Temperature Control installation in Allstate's new home office is told by the pictures and captions on these two pages.

The *techniques* used, applied to your particular problems, can help you give clients the Indoor Weather they've always wanted–customized to their requirements.

The key word here is "customized." It means that whatever your clients' control requirements, a Honeywell Customized Temperature Control installation *designed to fit the needs of the building and its occupants* is your answer. This applies not only to heating and cooling, ventilating and humidity control but to industrial control as well.

Only Honeywell can provide a truly "customized" control installation. Because only Honeywell manufactures all three types of controls–pneumatic, electric and electronic.

The executive who occupies the office at left likes to work in temperatures that are cooler than average. This atmosphere he can have, because the office is equipped with its own thermostat. Individual office temperature control is an important feature of Honeywell Customized Temperature Control.

SECOND FLOOR PLAN

For comfortable, even temperature in new or existing buildings—of any size—specify Honeywell Customized Temperature Control

Whether it's an office, school, shopping center, factory, motel, hospital—or any size building—new or existing, Honeywell Customized Temperature Control can help meet your clients' heating, ventilating, air conditioning and industrial control problems.

They will not only enjoy more comfort and efficiency, they'll save fuel, too.

For full facts on Honeywell Customized Temperature Control, call your local Honeywell office. Or mail the coupon today.

William Goodman, consulting mechanical engineer, says:

"Providing ideal Indoor Weather the year round sometimes gets to be quite a job. I'm sure glad to have Honeywell Customized Temperature Control available to help do the right kind of job."

MINNEAPOLIS
Honeywell

112 OFFICES ACROSS THE NATION

H

First in Controls

MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
Dept. PA-9-145, Minneapolis 8, Minnesota
Gentlemen: I'm interested in learning more about Honeywell Customized Temperature Control.

*Name*_____

*Firm Name*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

The new home office of the Allstate Insurance Company in Skokie, Illinois, is a three-story building of some 184,750 square feet. Large glass areas face all four directions. Yet with Honeywell Customized Temperature Control on the job, *comfort* is uniform throughout the building—all the time. Architects and engineers were Dunlap and Esgar, Inc., Chicago. Consulting mechanical engineer was William Goodman, Chicago.

The comfort problem in large office areas is quite different from what it is in the relatively small private office. More people are involved, the much greater area itself is important, exposure factors are heightened. In the area pictured above (located at left in the floor plan) three thermostats were needed to provide perfect comfort in all kinds of weather.

A special comfort problem was involved in the electronic calculator room above. On the floor plan it's that separate area labeled tabulating. Calculating machines, because of the way they work, just naturally give off heat. But this needn't cause discomfort—not with Honeywell Customized Temperature Control on the job. The right number of thermostats, strategically placed, insures perfect comfort at all times.

Bradley Announces—

VANDAL-PROOF WASH FIXTURES

Showing Washfountain with metal pedestal completely assembled.

Full-circle Bradley Washfountain. St. Joseph Technical High School, Cleveland, Oh'o.

In the stairwell area, two semi-circular Bradleys are installed near entrance to cafeteria, Central H. S., Minneapolis.

Withstand Severe Usage

1. Tamper-proof nuts and coupling nuts lock the tie rod assembly.
2. Meddling with contents of Soap Dispenser is prevented by locking type Filler Cap.
3. Mixing Valves are concealed inside the metal pedestal on Washfountain with supply lines from below the floor.
4. Metal pedestal has removable panel—to afford accessibility to valves and fittings—but effectively restrain unnecessary tampering.

And Maximum Sanitation, Economy of Installation and Water

Besides the overall ruggedness, the Bradley Washfountain has a central sprayhead instead of faucets. Clean running water is supplied to groups up to 10 simultaneously. Over 70% fewer water supply connections are required, —and with Foot-Control, water supply is cut off immediately the foot is removed. No water waste.

Write today for New Folder V.P.

BRADLEY WASHFOUNTAIN CO.
2277 W. Michigan St., Milwaukee 1, Wis.

BRADLEY washfountains

Distributed Through Plumbing Wholesalers

out of school

(Continued from page 176)

general statement *(the capitalization is mine)*:

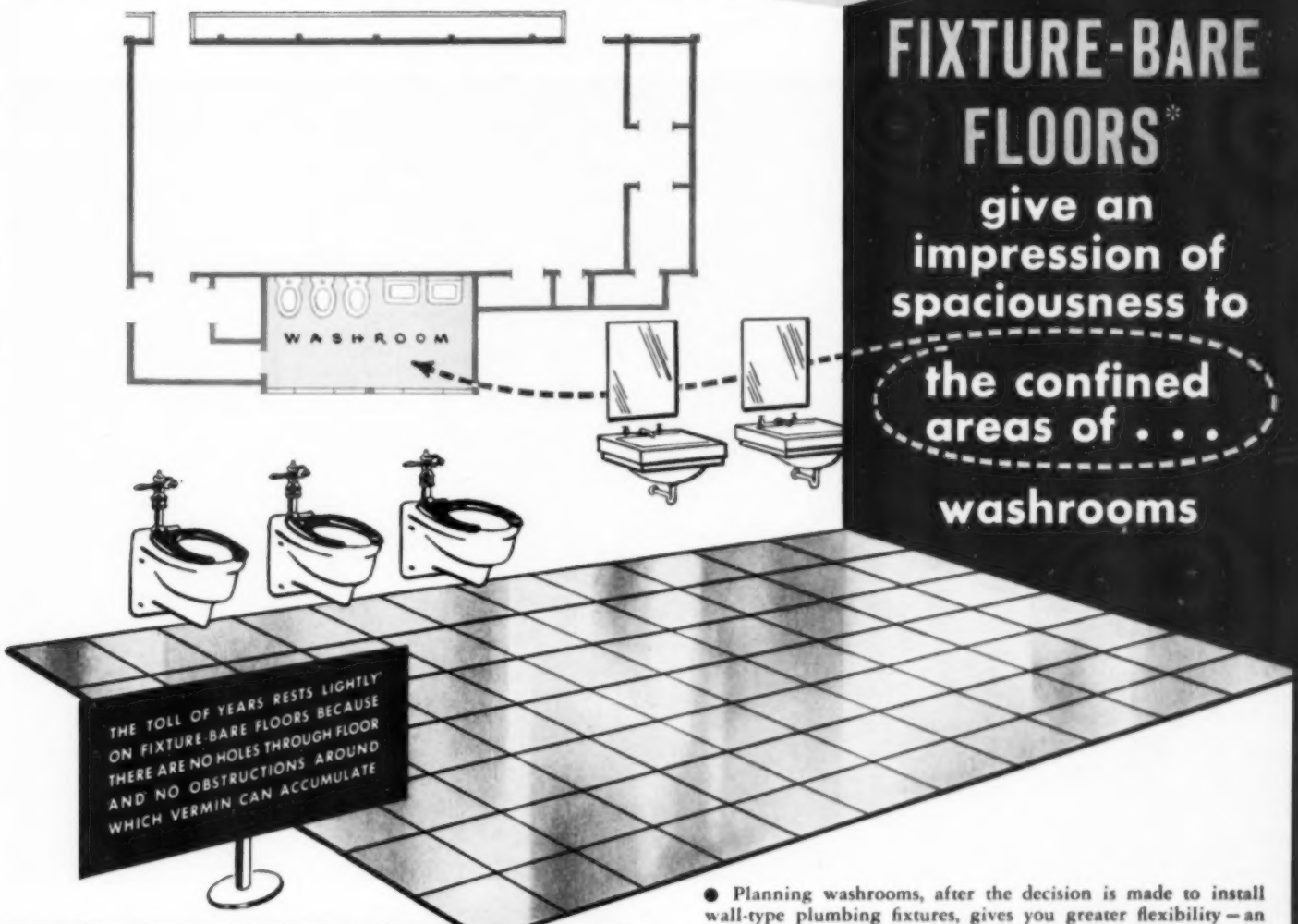
"IT WOULD INDEED BE IRONIC IF A PROFESSION DEDICATED TO THE PLANNING OF VAST ENTERPRISES PROVE TOO TIMID TO CONTROL ITS OWN FUTURE."

This warning—or is it a shadow of well-documented doubt—actually pervades the whole Report as I read it. Certainly, while the definition of "The Role of the AIA" *(Chapter XII)* is a timid one, many of the Recommendations in Chapter XI are challenging, if not bold. Certainly several will cause controversy. For instance, *Recommendation No. 24* urges the AIA to secure abandonment of any use of the misleading title, "Architectural Engineering," in its recommendations on "Non-Architectural Curricula." (This column made the same recommendation at some length four years ago.) Neither the schools of "Architectural Engineering" nor the graduates thereof, are going to be pleased if the AIA undertakes this worthy objective. Another more entangling, but to me somewhat more questionable enterprise is contained in *Recommendation No. 29*, which urges that the "AIA assume sole responsibility for determining the profession's need for the establishment of any new school of architecture." While the arguments for this are well documented and the mechanics suggested *(pages 321-323)*, I can see the irate chancellors foaming at the mouth at the interference with academic self-determinations (suicidal or fratricidal, whichever may be the case) on the part of the professional organization buttinskis. "*Sole* responsibility for *any*"—strong words!

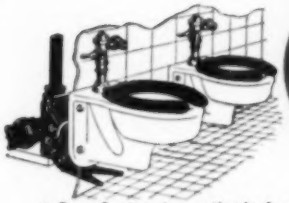
On the other hand, many of the Recommendations are challenging because of the difficult problems they attempt to solve and the complex mechanisms for these solutions, which the Report invented. Perhaps one of the most vital of these —certainly one of the most critical—is *Recommendation 30: Systematization of Candidate Training*. I have been watching this pretty much from its inception, and since this subject appeared early in the prior drafts of the Report, it was

(Continued on page 184)

FIXTURE-BARE FLOORS* give an impression of spaciousness to the confined areas of . . . washrooms


WASHROOM
THE TOLL OF YEARS RESTS LIGHTLY ON FIXTURE-BARE FLOORS BECAUSE THERE ARE NO HOLES THROUGH FLOOR AND NO OBSTRUCTIONS AROUND WHICH VERMIN CAN ACCUMULATE

FIXTURE-BARE FLOORS* are obtained by installing WALL-TYPE PLUMBING FIXTURES with the



ZURN system*

A Zurn System is available for installing all types and makes of wall-type plumbing fixtures.

Copyright 1954
*T. M. Reg.
U. S. Pat. Off.

● Planning washrooms, after the decision is made to install wall-type plumbing fixtures, gives you greater flexibility—an unrestricted opportunity to exercise your imagination, skill and ingenuity. Off-the-floor plumbing fixtures installed with a Zurn System leave surfaces of washroom floors intact and free of obstructions and create a pleasing effect of spaciousness. Such an installation insures against untimely obsolescence of washrooms and reduces the maintenance of cleanliness to an all-time low. Off-the-floor plumbing fixtures installed with a Zurn System permit the use of any type of floor construction; any type of wall construction; eliminate the need of furring-in drainage lines; simplify drainage and vent pipe layout, and reduce the over-all cost of washrooms.

WRITE FOR FREE BOOKLET *entitled, "You Can Build It and Maintain It for Less A NEW WAY." It presents new ideas for washroom installations in new and existing buildings.*

Over 700,000 wall-type plumbing fixtures installed with the Zurn System in buildings of every type from coast to coast. Your Zurn Representative has list of buildings which have washrooms with fixture-bare floors.

PLUMBING DIVISION

J. A. ZURN MFG. CO. • ERIE, PA., U.S.A.

Sales Offices in all Principal Cities

In Canada: **Canadian Zurn Engineering Ltd., Montreal 25, P.Q.**

Other Divisions of the Zurn Organization

MARINE DIVISION: **Fluid Control and Piping Equipment** • ***INDUSTRIAL DIVISION:*** **Strainers for Pipe Lines** • ***AFFILIATE:*** **American Flexible Coupling Co., Amerigear Couplings with Fully Crowned Teeth**

J. A. ZURN MFG. CO., PLUMBING DIVISION, ERIE, PA., U. S. A.

Please send me the booklet, "You Can Build It and Maintain It For Less A NEW WAY."

Name and Title .....

Company .....

Street .....

City and State .....

Please attach coupon to your business letterhead, Department PA-719.

How Northland Shopping Center Planners

The J. L. Hudson department store, which developed Northland, used *Thermopane* insulating glass in its front. *Thermopane* reduces steam and frost on windows in winter . . . helps muffle outside noise. *Project Architects:* Victor Gruen & Associates, Inc., Hollywood and New York.

. . . a few of the Northland stores

MASKELL FLOWERS

KRESGE'S

NO FINER GLASS THAN LIBBEY · OWENS · FORD

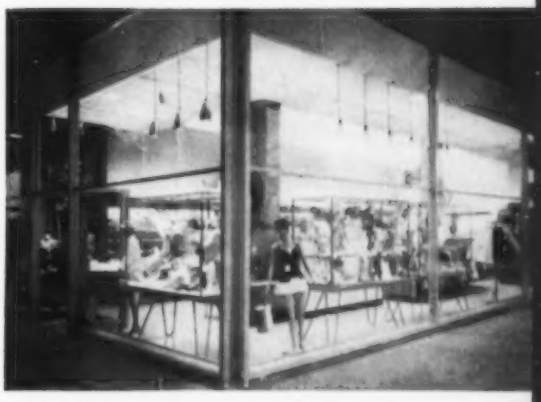
used L·O·F POLISHED PLATE GLASS for Visual Fronts

Practically no restrictions were put upon the storefront designs of the 80-odd units in the Northland Shopping Center in Detroit. And each store was designed independently, except for coordination by the project architects. Yet, all over the Center, there is one common denominator: *Large plate glass "visual fronts", designed to put a store's entire interior on display to pedestrians.*

Of course, waviness and distortion would ruin the whole effect, so store after store at Northland was glazed with L·O·F Polished Plate Glass.

No matter what your next job may be, you'll want the true vision, beauty and luster of L·O·F Plate Glass. For special applications, these same qualities are available in *Thermopane** insulating plate glass, Heat Absorbing Plate Glass, *Tuf-flex** tempered plate glass and others.

For details on any of the standard or special types of plate glass, call your nearest L·O·F Glass Distributor or Dealer. Or write Libbey·Owens·Ford Glass Co., 608 Madison Avenue, Toledo 3, Ohio. *®

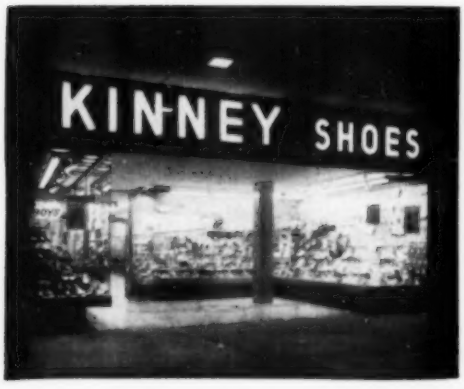


ROBELLE SHOP

BRENNAN'S

HIMELHOCHS

using L·O·F Polished Plate Glass



KINNEY SHOES

THE HOT 'N' KOLD SHOP

POLISHED PLATE GLASS

L O F GLASS Corrugated FIBER-GLASS

out of school

(Continued from page 180)

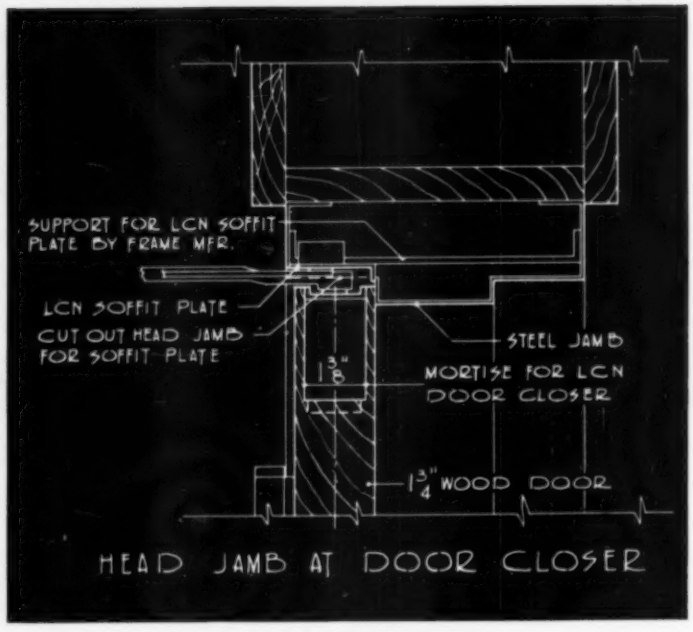
adopted as part of the revised duties and functions of the Committee on Education of the AIA well over two years ago. To understand all the steps recommended means a careful study of Chapter VIII of the Report *(pages 331-349)*. And quoting *(page 342)*: ". . . the proposed plan of candidate training enlists the cooperation of candidate, his employer-adviser, and the profession, as represented by The AIA and its chapters." The development and control of such a system, state by state, city by city, chapter by chapter, *office by office*, will mean a type of dynamic operation of the AIA which, in the past, has not always been too noticeable. I wonder if this is what was implied by that sentence I capitalized above. I hate to read more into these things than I should, but the location of that sentence where it is on page 442 *could* have been intentional.

•

Part of the problem of interpretation of so vast a report as we are discussing is the establishment of priorities for action as well as in the weighting of the items. Unfortunately the Report gives no clue to either, although it is obvious from a study of the 43 Specific Recommendations that some are short and others long-range and some are a damn sight more important than others! Or at least that would be my judgment. It is here that we get into questions of personal opinion and the judgment of the Survey Commission, itself, on these matters would have had considerable weight with all of us. This places a very real burden of study on the Board of the AIA, its staff and its appointed Committees, as well as on the officers of the ACSA, NCARB, and NAAB. It goes without saying that what may be important to one is not necessarily of interest to the others.

In this question of who does what, with which and to whom in architectural education, the Survey Report is good. Unfortunately, it omits the how and when. While it discusses in only very limited general terms the "Role of the AIA" *(page 452)*, it does say on education when speaking of "Opportunities and Responsibilities at the State Level" *(page 455)*, "The professional organization must be careful in its approach to this task . . ." It suggests that the "Educator" may wish to "discuss his problems with the professional committees, but the final decisions are his to make." This leaves me a little confused when I am considering *R-30: Systematization of Candidate Training* mentioned above. In that proposal, the adviser and educator of the candidate may be his employer or another architect. The fact is that while the Report frequently urges the abandonment of our *laissez-faire* systems of architectural education and training, and brilliantly tells why, it fails, in my humble opinion, to

(Continued on page 188)


SUPPORT FOR LCN SOFFIT PLATE BY FRAME MFR.
LCN SOFFIT PLATE
CUT OUT HEAD JAMB FOR SOFFIT PLATE
STEEL JAMB
MORTISE FOR LCN DOOR CLOSER
1 3/8"
1 3/4" WOOD DOOR
HEAD JAMB AT DOOR CLOSER

CONSTRUCTION DETAILS

for LCN Closer Concealed-in-Door, Shown on Opposite Page

The LCN Series 302-303 Closer's Main Points:

1. An ideal closer for many interior wood doors
2. Mechanism concealed within door; flat arm not prominent, and provides high closing power
3. Door is hung on regular butts
4. Closer is simple to install and to adjust
5. Used with wood doors; wood or metal frames
6. Practically concealed control at little more than exposed closer cost

Complete Catalog on Request—No Obligation
or See Sweet's 1954, Sec. 17e/L

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Perkins & Will, *Architects—Engineers*

MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN DOOR

HEATHCOTE SCHOOL, SCARSDALE, NEW YORK

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page

EXTRA LONG LENGTHS (available up to 48″ x 192″) of California redwood and pine Novoply were used to achieve this dramatic wall treatment.

New wood-plastic Novoply gives free

SMUDGY LITTLE HANDS will never hurt this Novoply lined school corridor.

LOOKS LIKE A "MILLION" but this Novoply showroom wall costs so little.

WARP-FREE NOVOPLY sliding door unit room divider in moderate price house.

NOVOPLY IS PERFECT for partitions—good two sides—no patches or plugs.

rein to your wall ideas

Novoply paneling opens the way to an entirely new wall treatment concept. It's bold, imaginative, practical, yet it's priced for even a modest budget.

When funds are limited, yet you still want to avoid the dull, the done-to-death ideas, then it's time to specify Novoply. You'll like the fresh mosaic textured look of Novoply in either pine or California redwood faces.

Novoply has its practical side, too! It's the most dimensionally stable wood-plastic panel made—*virtually warp-free!* Novoply is made by a special bonding process which results in an exceptionally hard, *ultraflat* surface—*good both sides!* Novoply scorns wear, takes almost any finish.

With Novoply, maintenance is never a problem, because once the walls are up and finished an occasional waxing or a wipe of a sponge is all that's needed to keep them looking fresh and new.

For further information call or visit any of the 73 United States Plywood or U.S.-Mengel Plywoods distributing units in principal cities.

SPECIFICATIONS

THICKNESS: ¼"; *Sizes:* 24" x 72", 24" x 96", 30" x 48", 30" x 60", 30" x 72", 36" x 72", 48" x 48", 48" x 72", 48" x 96"; also cut to size for volume users from panels 6' x 12' and 4' x 16'. Available in 3/8" thickness, sizes 48" x 96" and 48" x 192". Can be made 5/16" and 11/16" to order.

IMPORTANT NOTE: Only slight extra cost for long-length Novoply panels up to 16'. Long lengths reduce number of joints, reducing installation costs.

BEAUTIFUL WELDWOOD FIRE DOORS* ARE UNCONDITIONALLY GUARANTEED FOR THE LIFE OF THE INSTALLATION

Weldwood Fire Doors have incombustible Weldrok® core. Bear Underwriters' label for class B and C openings. Available in wide choice of fine hardwood faces, in standard sizes and special sizes to order.

*Pat. No. 2,593,050

Weldwood®

NOVOPLY®

a product of

UNITED STATES PLYWOOD CORPORATION

WORLD'S LARGEST PLYWOOD ORGANIZATION

55 West 44th Street, New York 36, N. Y.

U. S.-Mengel Plywoods, Inc., Louisville, Kentucky

In Canada, Weldwood Plywood Ltd., Woodstock and Ontario

UNITED STATES PLYWOOD CORPORATION
55 West 44th Street, New York 36, N. Y. PA-9-54

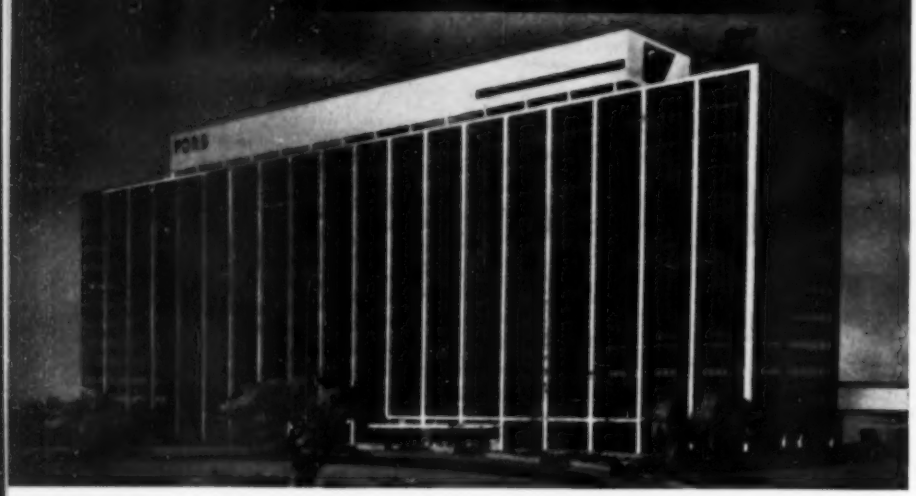
☐ Please send me free sample of Novoply.
☐ Send complete information on Weldwood Fire Doors.

NAME.....

ADDRESS.....

CITY.....STATE.....

Q-FLOOR helps make Ford's new Dearborn office building as modern as its cars



Ford Motor Company . . . . . Dearborn, Michigan
Skidmore, Owings and Merrill . . . . . Architects
Bryant & Detwiler Company . . . . General Contractors
Weiskopf & Pickworth . . . . . Structural Engineers

Shown above is the Ford Motor Company's magnificent new administration building soon to occupy a 90-acre site in Dearborn, Michigan. When it is completed, it will provide nearly 950,000 square feet of floor space, approximately 500,000 square feet of which will be Q-Floor and on which 3,000 employees will work in the comfort of the latest in modern lighting and air conditioning.

Architects Skidmore, Owings and Merrill carefully designed the building to prevent obsolescence due to changing conditions in the years to come. Interior partitions will be movable to provide maximum flexibility in floor arrangements, and Robertson Q-Floor construction will be used to permit complete freedom of power and telephone outlet changes and additions at minimum cost. Only with this weight-saving, cellular steel structural floor can every exposed 6″ square area be the potential location of a convenience outlet.

Robertson Q-Floor construction also saves time and money. Its weight-saving factor means lower cost of foundation and structural steel. It immediately becomes a safe storage and working platform for the benefit of all trades. And because no combustible forms and falsework are required for the concrete fill, there has never been a construction fire on a Q-Floor job.

With all these remarkable features, it is easy to see why Q-Floor will help make and keep this fine new building as modern as the Ford of tomorrow.

Use the coupon on the opposite page to write for literature.

Robertson

Q-Floor

a product of **H. H. Robertson Company**

2405 Farmers Bank Building • Pittsburgh 22, Pennsylvania
In England—Robertson Thain Limited, Ellesmere Port, Cheshire
In Canada—Robertson-Irwin Limited, Hamilton, Ontario

World-Wide Building Service

out of school

(Continued from page 184)

develop the mechanics to overcome one of architectural education's obvious failures to date. It is fine to urge get-togethers of educators, but no one yet has proposed how. I could make a proposal for what it would be worth — but won't, unless somebody asks.

As the Report is studied, therefore, I would urge the reader to ask himself how and where is he personally concerned and what should he do about the questions and suggestions raised. YOU CANNOT DEPEND ON AMIABILITY. YOU MUST AIM.

I cannot close this first of several articles of mine on the subject of the Report without comment on other elements in it besides the Recommendations. In the first place, the facts on the education of architects are presented with extraordinary statistical thoroughness. The graphs are a constant source of both valuable and curious information about the architectural schools: where students like to go, what they get in the curriculum, what kinds of degrees they get, and the growth and changes in all these things. From the standpoint of the academician, this is all most valuable and well-worth relating to his work. Figures and graphs on enrolment from 1900 projected to 1970, and regional growths are also interesting, and information on the faculties of architecture, their experience, training and professional projects are all evaluated. The summaries and findings in Chapter VII, particularly the section "The Faculty" *(page 234)*, should be read carefully by every teacher of architecture. (I would expect the students to dive into it, before anything else.)

We are all familiar with the outstanding scholarship of Turpin Bannister and his vast knowledge of architectural history. Therefore it comes as no surprise that the history of architectural education as contained in the Report is fascinating in its completeness and in its *uncoverage*. I only wish that it were assembled in one spot, but I suppose that would have been difficult. As it is, historical gems are found in unexpected places and add much to the reader's pleasure as well as knowledge. You will find the major historical discussion, however, in Chapter IV *(pages*

82-109). I suspect that some of the candid comparisons with history will not sit well with all readers, but I found the Section, "Education and the Modern Movement" *(pages 104-109)*, a refreshing short course in cooling off.

This article is neither a book review, a summary, nor a complete commentary on the educational material of the Survey Report. It is intended merely to serve as an introduction to the subject and to provide some stimulus to careful study of a document that, because of its size, might frighten away the timid reader. I hope I have succeeded in convincing you that studying the Report is more than just well worth your while. What I have said in criticism of it and what may be said in the future in criticism, by me or anyone else, is not to deter you from your reading. Remember that we all too frequently take the critic's word for it, when we don't know the material he is criticizing.

Consequently your homework assignment OUT OF SCHOOL is to read the Report—and make your own criticisms.

notices

appointments

SIBYL MOHOLY-NAGY, New York, N.Y., has been advanced to the rank of Assistant Professor at Pratt Institute, Brooklyn, N.Y., where she teaches history of architecture.

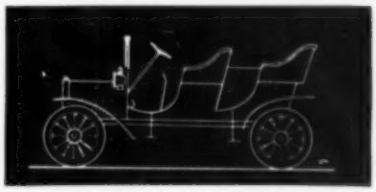
RALPH RAPSON, Assistant Professor of Architecture at M.I.T., has been appointed head of University of Minnesota School of Architecture to succeed ROY C. JONES who retired in June, 1953. Rapson will assume his duties at Minnesota in September.

DONALD REICHERT, Assistant Director of the George Walter Vincent Smith Art Museum, Springfield, Mass., has been appointed Assistant to the Director of the Yale University Art Gallery and Design Center.

Floors, like Fords, have seen change over the years

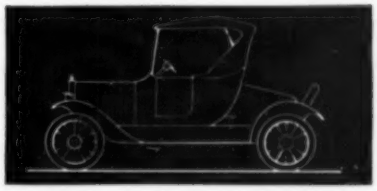
For over a half century the automobile has been a chief topic of conversation, and the improvements made over the years have been critically analyzed by every prospective purchaser.

As every architect and engineer well knows, the floor construction of office buildings has undergone a similar period of development, moving from cumbersome tile arch construction to the modern electrically available cellular steel floor. The basic chronology of floors and Fords up through Q-Floor and the Y-Block engine is shown below.



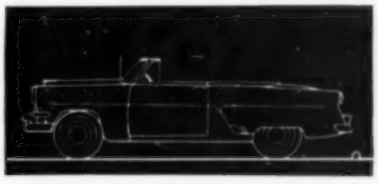
1904 The 4-cylinder, 20-horsepower forerunner of the fabulous Model T was a sensation this year. It featured two speeds forward, gas headlamps, and a handy crank for starting.

1904 This year, electricity was just finding its way into commercial buildings and was used only for lighting. Floor construction, at best, was a dead monolithic slab.

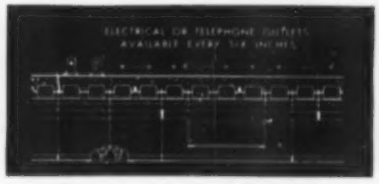


1924 Ford was now producing as many as 2,000,000 cars a year, all painted black. Wide tolerances in bearings, gears, and other interchangeable parts made every Model T owner his own repairman.

1924 The increasing use of electricity found many office buildings sadly lacking in convenience outlets for the new electrical equipment. Early attempts at "in-the-floor wiring" were adequate for that day.



1954 Today's car is designed for comfort and convenience. There is little left to do but steer. Mechanically, it is made to cope with every requirement of its owner.



1954 The finest of today's new office buildings are built with modern Q-Floor because it offers the greatest electrical and structural advantages of any floor system known.

Robertson

Q-Floor

a product of **H. H. Robertson Company**

2405 Farmers Bank Building • Pittsburgh 22, Pennsylvania

World Wide Building Service

Please send a free copy of your "Q-Floor" catalog.

Name_____

Address_____

Door coils above the opening, completely out of the way.

Clears the entire opening — jamb to jamb, floor to lintel.

Opened door stays out of reach of wind or vehicles.

All surrounding floor and wall space is always fully usable.

Rugged all-steel curtain repels wind, fire, theft, vandalism.

Heavily galvanized curtain gives lasting resistance to elements.

(1.25 ounces of pure zinc per square foot of metal, as per ASTM standards.) Kinnear Paint Bond — a hot phosphate immersion assures thorough, lasting paint grip.

Smooth, easy coiling upward action saves time and labor.

Ideal for motor operation; remote control switches if desired.

Any size; quickly, easily installed in old or new building.

Kinnear Steel Rolling Doors

The rugged Kinnear Motor Operator, with push-button control switch.

Write today for full details.

The KINNEAR Manufacturing Co.

Offices and Agents in Principal Cities

1900-20 Fields Ave. Columbus 16, Ohio

Saving Ways in Doorways
KINNEAR ROLLING DOORS

1742 Yosemite Avenue San Francisco 24, Calif.

THE ARCHITECT'S PLACE ON THE BRIDGE DESIGN TEAM

the illustrations

Page 90 (top to bottom)

Bridge No. 3 on Autopista between Caracas and La Guaira, Venezuela, 1953. By Enterprises Campenon Bernard—Robert Shama, Project Manager and Chief Engineer; Eugene Freyssinet, Consulting Engineer. Span: 453 ft. *Photo: Hamilton Wright.*

Sandobron (Sando Bridge) over the Angerman River, Sweden, 1942. By the Skanska Cement Company—C. Hagghom, Chief Engineer. Span: 866 ft. *Photo: Engineering News-Record, McGraw-Hill Publishing Company, Copyright 1953.*

Bixby Creek Bridge on Carmel-San Simeon Highway, California, 1922. By the California Division of Highways. Span: 320 ft. *Photo: Engineering News-Record, McGraw-Hill Publishing Company, Copyright 1953.*

Highway Bridge over the Marne River at Esbly, France, 1949. Eugene Freyssinet, Engineer. Span: 242.8 ft. *Photo: Engineering News-Record, McGraw-Hill Publishing Company, Copyright 1953.*

Page 91 (top to bottom)

Penellas-Manatee Crossing over Lower Tampa Bay, Florida, scheduled for completion 1954. Parsons, Brinckerhoff, Hall & MacDonald, Engineers. Girder span: 48 ft. *Photo: courtesy of Preload Construction Corporation.*

Bridge No. 1 on Autopista between Caracas and La Guaira, Venezuela, 1952. By Enterprises Campenon Bernard—Robert Shama, Project Manager and Chief Engineer; Eugene Freyssinet, Consulting Engineer. Span: 499 ft. *Photo: Hamilton Wright.*

Page 92 (top to bottom)

Bridge over the Rhine between Cologne and Mulheim, Germany, 1929, destroyed in World War II. Karl Mehringer, Engineer. Span: 1,033 ft. *Photo: courtesy of The Museum of Modern Art.*

Golden Gate Bridge, San Francisco, California, 1937. Joseph B. Strauss, Chief Engineer; O. H. Ammann, Leon P. Moisseiff, and Charles Derleth, Jr., Consulting Engineers; Irving F. Morrow, Consulting Architect. Span: 4200 ft. *Photo: courtesy of the American Institute of Steel Construction.*

Bayonne Bridge over the Kill van Kull between Bayonne, New Jersey, and Port Richmond, Staten Island, New York, 1931. By the Port of New York Authority—O. H. Ammann, Chief Engineer. Two-hinged arch; span: 1,652 ft. *Photo: Ewing Galloway.*

Rainbow Bridge over Niagara River, Niagara Falls, New York, 1941. Waddell & Hardesty, Engineers; Aymar Embury II, Architect. Main span: 960 ft. *Photo: Engineering News-Record, McGraw-Hill Publishing Company, Copyright 1953.*

South Grand Island Bridge over the Niagara River, Grand Island, New York, 1935. Built under direction of Frederick S. Greene, Chief Engineer, Niagara Frontier Bridge Commission, and Superintendent of Public Works of the State of New York; plans for superstructure of river spans prepared by Waddell & Hardesty and George C. Diehl, Inc., Consulting Engineers of the Commission. Main span: 600 ft. *Photo: Ewing Galloway.*

Page 93 (left to right)

Sagamore Bridge over Cape Cod Canal at Bourne, Massachusetts, 1935. Fay, Spofford & Thorndike, Engineers. Center span: 616 ft. center to center; each side span: 396 ft. *Photo: courtesy of the American Institute of Steel Construction.*

Bridge over Rio Blanco near Vera Cruz, Mexico, 1953. Engineers: Thomas C. Kavanagh, Prager-Kavanagh-Waterbury, Engineers and Architects, and Camilo Piccone, Civil Engineer and Contractor, Estructuras S. de R. L.; constructed under direction of Papaloapan Commission. Span: 250 ft. *Photo: courtesy of Thomas C. Kavanagh.*

Sketch: study of proposed Pennsylvania Highway Bridge, Pennsylvania by Severud-Elstad-Krueger, Consulting Engineers.

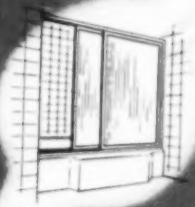
(Continued on page 195)

LUDMAN
Auto-lok
AUTOMATIC LOCKING
PATENTED

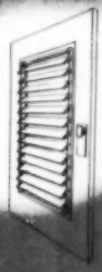
AUTO-LOK ALUMINUM AWNING WINDOWS

AUTO-LOK HOPPER VENT WINDOW

AUTO-LOK CONTROL BAR WINDOW



SHOWER DOOR TUB ENCLOSURES



JALOUSIE DOORS

AUTO-LOK WOOD AWNING WINDOWS

JALOUSIES

in all the world....products by

LUDMAN
have no equal!

Wherever you go—all over the world—you'll find LUDMAN the foremost name in awning windows, jalousies and shower door tub enclosures. LUDMAN'S advanced design, engineering skill and unrivaled craftsmanship have earned for its products an enviable reputation for high-standard quality.

LUDMAN products are produced in the largest plant of its kind in the world . . . . where complete quality control is maintained from raw material to finished products.

In value, in quality, in performance, in exclusive features . . . Ludman products have no equal!

REFER TO SWEET'S FILE
MEMBER OF THE
PRODUCERS' COUNCIL, INC.

LUDMAN *Corporation* NORTH MIAMI, FLORIDA

world's largest manufacturer of awning windows, jalousies and tub enclosures

SEALS TIGHTER
THAN A REFRIGERATOR

LUDMAN
Auto-lok
AUTOMATIC LOCKING
PATENTED
ALUMINUM AND WOOD WINDOWS

HAVE NO EQUAL

When you specify Ludman *patented* Auto-Lok make sure this superior window is used on the job because there is no equal to Ludman *patented* Auto-Lok. Only *patented* Auto-Lok has the exclusive automatic-locking mechanism which closes windows ten times tighter than generally accepted standards.

Remember too, that Ludman is the world's largest manufacturer of awning windows . . . . produces *patented* Auto-Lok in the largest plant of its kind in the world . . . . and has complete quality control of its products from raw metal to finished windows. Ludman . . . . and Ludman alone . . . . has the skill, resources and know-how to guarantee superiority in not one or two — but all 10 requisites that experts* agree are important in a window.

Specify Ludman *patented* Auto-Lok — with full assurance that you're choosing the one window which will please your client best . . . . and reflect maximum credit on you. In quality, in performance, in exclusive features . . . . Ludman *patented* Auto-Lok *has no equal!*

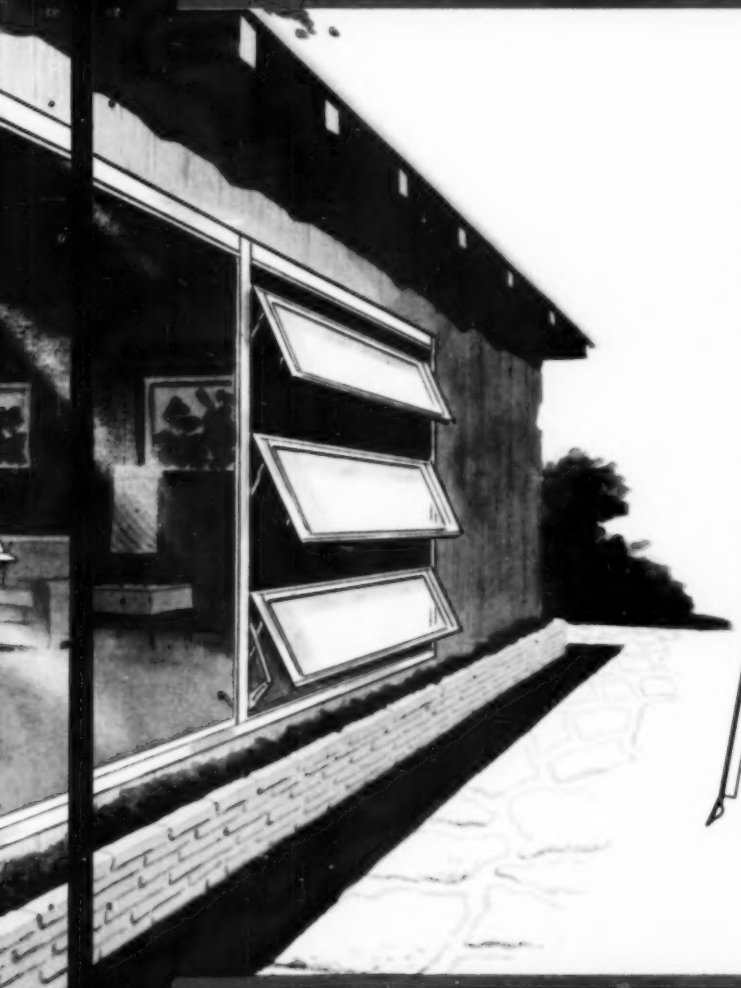
LUDMAN ENGINEERING AND PLANNING SERVICE
available for any job, large or small

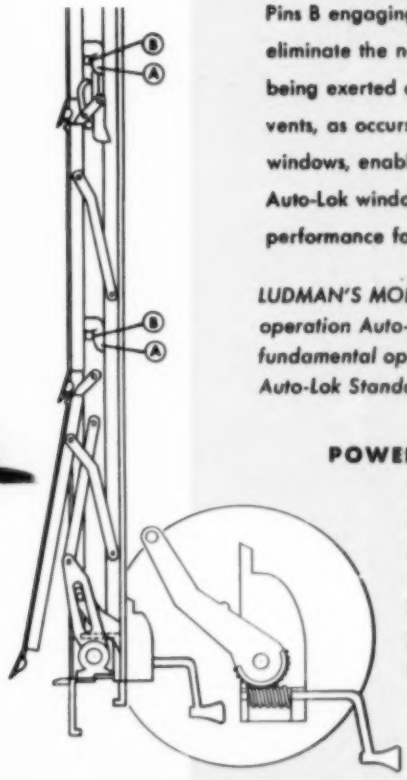
*Geoffrey Baker and Bruno Funaro in "Windows in Modern Architecture."

FOR SCHOOLS, HOSPITALS, INDUSTRIAL INSTITUTIONAL BUILDINGS, APARTMENTS HOMES, HOTELS and MOTELS.

The New *patented* Auto-Lok Model B with Torque Bar Operation

You'll find more exclusive features, more value in the new LUDMAN Model B patented Auto-Lok window with Torque Bar operation. It's America's finest . . . performance proves it! In selecting windows, ask for proof of superiority. Proof of maintenance economy, tighter closure and lifetime trouble-free operation! Specify and be sure to get the one and only window that can give this proof . . . . LUDMAN'S Model B window with its patented Auto-Lok features!





Showing all vents closed and locked, with fresh air night vent automatically left open. Pins B engaging Keepers A on each vent eliminate the necessity for any pressure being exerted on hinge points of all other vents, as occurs on other awning type windows, enabling LUDMAN patented Auto-Lok windows to give trouble free performance for the life of the building.

LUDMAN'S MODEL B with torque bar operation Auto-Lok window, retains all the fundamental operating principles of the Auto-Lok Standard Model A window.

POWER-LIGHT OPERATOR

LUDMAN'S exclusive graceful and compact Power-Light Operator, available in *both over-the-sill and angle types,* supplied on no other awning type window, will provide smoother and easier operation, furnish maximum power and give lifetime satisfaction.

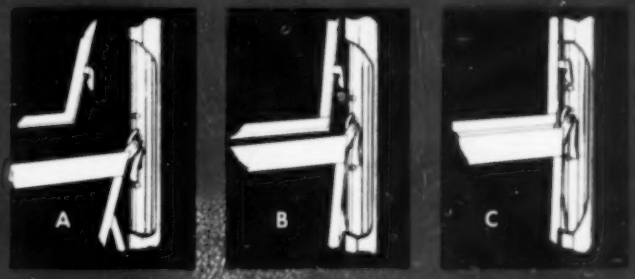
Here's why LUDMAN *patented* Auto-Lok windows are the tightest closing windows ever made.

A. While vents are swinging in toward frame, vertical operating bars at each side of window move up.

B. Note how legs on operating bars and hooks on vents commence to move into position as bars continue to move up, so wedging action may be applied to pull vents in tightly against frames.

C. Vents are pulled in snug, and pressure against vinyl weatherstripping assures a complete seal. Automatic locking has commenced.

D. Final "locked" stage . . . hooks have moved in, adding extra locking action near bottom of vents, on both sides . . . locking all four corners of each vent. Action entirely automatic.



Only LUDMAN Auto-lok MEETS WHAT EXPERTS* AGREE ARE THE 10 MOST IMPORTANT REQUIREMENTS IN A WINDOW!

The Ludman Corporation maintains a complete research and engineering department, and is always happy to provide counsel regarding any window problems.

Your local Ludman representative can help you determine your special requirements for your particular installation. He can also advise you on standard applications and give you estimates at no cost.

Mail this coupon today for illustrated literature showing various styles and sizes, and product information.

1. AMOUNT AND QUALITY OF VENTILATION?

100% draft-free ventilation, because sash open to almost 90° and entering air is always scooped inward and upward into the room.

2. POSSIBILITY OF CONTROL OF VENTILATION?

You make your own weather! Perfect control in all positions from a slight crack of each sash to a full 100% opening of all sash.

3. IS THE WINDOW EASILY OPERATED?

Effortless opening and closing assured for the life of the building because of fingertip action roto-operator and friction-free, precision balanced patented AUTO-LOK hardware. A few simple turns completely opens or closes every patented AUTO-LOK window regardless of size! Patented AUTO-LOK windows never stick.

4. WEATHER PROTECTION WHEN THE WINDOW IS OPEN?

With patented AUTO-LOK you can enjoy the luxury of healthful, refreshing ventilation during rains.

5. WEATHER-TIGHTNESS WHEN THE WINDOW IS CLOSED?

Patented AUTO-LOK IS THE TIGHTEST CLOSING WINDOW EVER MADE.... many times tighter than any other window. Patented self-locking device plus "Floating Seal" weatherstripping automatically seals the window tight and isolates weather to a degree heretofore believed impossible.

6. WHAT OBSTRUCTIONS TO VIEW (RAILS AND MUNTINS)?

Beautiful exceptionally narrow sight lines are retained. Patented AUTO-LOK meets any architectural or design requirement in this respect. Concealed hardware eliminates unsafe, unsightly, dirt collecting, exposed mechanism.

7. FIRST COST?

Thanks to Ludman's streamlined methods, patented AUTO-LOK windows cost no more, than ordinary old-fashioned windows. You cannot buy better window performance at any price.

8. MAINTENANCE COSTS?

Simplified operation eliminates wearing parts; no periodic adjustments necessary. Ludman engineering leadership combines the best in design, the best in material and the best in workmanship to make a window that will perform for the life of the building with a minimum of maintenance.

9. CAN ALL WINDOW GLASS BE CLEANED FROM INSIDE?

Patented AUTO-LOK can be completely, comfortably and conveniently cleaned entirely from the inside. No gadgets to disengage; no sash to remove. Just open the window and it's ready to clean—top sash too!

10. HOW DOES THE WINDOW FIT IN WITH PLANS FOR SCREENS, STORM SASH, BLINDS, ETC.?

Interchangeable, inside screens and storm sash are easily placed and removed. Just flip the clips.... no tools required! Operator does not protrude into room. No interference to drapes, blinds, etc.

**Geoffrey Baker and Bruno Funaro in "Windows in Modern Architecture"*

LUDMAN CORPORATION, Dept. 00, North Miami, Florida

Gentlemen: Please send complete information about these Ludman products:

- ☐ WOOD AWNING WINDOWS
- ☐ ALUMINUM AWNING WINDOWS
- ☐ JALOUSIES
- ☐ SHOWER DOOR TUB ENCLOSURE

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

LUDMAN Corporation NORTH MIAMI, FLORIDA

LEADS THE WORLD IN WINDOW ENGINEERING

FACTORY SALES OFFICES:

NEW YORK • CHICAGO • WASHINGTON, D. C.

ATLANTA • ST. LOUIS • HOUSTON • SAN FRANCISCO • MIAMI

THE ARCHITECT'S PLACE ON THE BRIDGE DESIGN TEAM

the illustrations

Page 94 (top to bottom)

Astoria Boulevard Bridge over Grand Central Parkway Extension, Queens County, New York City, New York, 1936. By Long Island State Park Commission and Triborough Bridge Authority. Span: on skew 92 ft, square 74 ft 8 in. *Photo: courtesy of the American Institute of Steel Construction.*

Airport Apron Overpass, Van Wyck Expressway approach to Central Terminal Area, New York International Airport, Borough of Queens, New York, 1948. Clarke, Rapuano & Holleran, Designers. Spans: 61 ft 6 in. each. *Photo:* Engineering News-Record, *McGraw-Hill Publishing Company, Copyright 1953.*

North Chicamauga Creek Bridge near Chattanooga, Tennessee, 1939. Designed and built by Tennessee Valley Authority—Theodore B. Parker, Chief Engineer; Roland A. Wank, Principal Architect. *Photo: courtesy of TVA.*

Hiwassee River Footbridge, Murphy, North Carolina, 1938. Designed and built by Tennessee Valley Authority—Carl A. Bock, Chief Engineer; Roland A. Wank, Principal Architect. *Photo: courtesy of TVA.*

Bridge over Little Soddy Creek, State Highway 20, Tennessee, 1940. Designed and built by Tennessee Valley Authority—Theodore B. Parker, Chief Engineer; Roland A. Wank, Principal Architect. *Photo: courtesy of TVA.*

Page 95 (left to right)

Handrail Light on Norris Dam Bridge, Anderson County, Tennessee, 1935. Designed and built by Tennessee Valley Authority—Barton M. Jones, Chief Design Engineer; Roland A. Wank, Principal Architect. *Photo: courtesy of TVA.*

Hackensack River Bridge of New Jersey Turnpike, 1950. Howard, Needles, Tammen & Bergendoff, General Engineers for Design and Construction; Fellheimer & Wagner, General Architects—Roland A. Wank, Associate-in-Charge. *Photo: Gottscho-Schleisner.*

Bridge of New Jersey Turnpike, Middlesex County, New Jersey, 1950. Fay, Spofford & Thorndike, Engineers for Design and Construction; Fellheimer & Wagner, General Architects—Roland A. Wank, Associate-in-Charge. *Photo: Gottscho-Schleisner.*

notices

P/A congratulates

JOHN A. WRIGHT, new President of CURTIS LIGHTING, INC., 6135 W. 65 St., Chicago 28, Ill. He has been associated with the corporation for several years as the corporation's attorney.

JOHN R. JOHNSTON and MALCOLM MEYER, new Vice-Presidents of Certain-teed Products Corporation of Ardmore, Pa. Johnston is also Comptroller; and Meyer will be in charge of sales.

PAUL L. HERSHFIELD, new President of the Walsh Refractories Corporation, St. Louis, Mo. He is also president of the Mississippi Glass Company.

Here's a New Sylvania

LIGHTING SYSTEM!

High-level over-all fluorescent light... and no visible fixtures... that's Sylvania's

SYLVAN-AIRE

Two views of SYLVAN-AIRE Lighting System in High Point, North Carolina Library.

This SYLVAN-AIRE system actually serves three purposes.

1. It provides a source of soft but ample over-all light.
2. Made of corrugated, translucent plastic, it imparts a new beauty and character to any room.
3. Designed with alternating acoustical strips or wedges to help hold sound to comfortable levels.

Quick, easy installation and extremely low maintenance costs are other big advantages. For new descriptive literature write to Dept. 4X-4309 at Sylvania.

WINS ARCHITECT'S HIGH PRAISE

"We are especially pleased with your Sylvan-aire System," writes Mr. L. F. Voorhees, A. I. A., designer of this building. "Where we had hoped for 45 ft. candles, with this system we were able to design and achieve *eighty*...without glare! From the aesthetic angle, this ceiling blends with the design simplicity for which we were striving."

SYLVANIA

Sylvania Electric Products Inc., 1740 Broadway, New York 19, N. Y.

In Canada: Sylvania Electric (Canada) Ltd., University Tower Bldg., St. Catherine Street, Montreal, P. Q.

LIGHTING • RADIO • ELECTRONICS • TELEVISION

modern British

1946-1953 The New Architecture in Great Britain. La Nouvelle Architecture en Grande Bretagne. Die Neue Architektur in Grossbritannien. *Edvard D. Mills. Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y., 1954. 212 pp., illus., $9*

This volume offers a generously detailed description, illustrated with photographs and drawings, of 15 British buildings and building projects—private houses, housing developments, schools, industrial plants, a public auditorium, a travel office, and a church. They have been selected by Architect-Author Mills as "truly representative of the best modern architecture in Great Britain since 1945." One of the author's designs, Brett Manor Flats, Hackney, London, is included.

In the introduction, Architect Sir William Holford states — almost apologetically—"The evolution of building and town design in these islands has been a relatively slow process." He also modestly feels that one who compares this collection with those of the Museum of Modern Art in New York will observe "the comparative timidity of British clients and promoters *vis-a-vis* their American counterparts."

However, such timidity still permits results comparable to American achievements in all the fields illustrated, save one: from this side of the Atlantic, at least, British private house design appears definitely inferior to American. Especially noteworthy among the achitectural work included, are the aircraft assembly buildings, Bristol; multistory flats at Pimlico and Finsbury, London; Royal Festival Hall and The Dome of Discovery, South Bank, London, both built for the 1951 Festival of Britain. Despite some features which were not above adverse criticism, The Dome of Discovery was outstandingly meritorious, "a notable example of British structural engineering and architectural ingenuity" (under the Dome the displays of British achievements in exploration and discovery were housed; hence its name). Regrettably, it was only a temporary building and was

(Continued on page 198)

books received

Architects' Year Book, Vol. 5. Trevor Dannatt, Editor. The British Book Centre, Inc., 122 E. 55 St., New York 22, N. Y., 1954. 294 pp., illus., $9

The A.I.A. Standard Contract Forms and the Law. William Stanley Parker and Faneuil Adams. Little, Brown & Co., 60 E. 42 St., New York, N.Y., 1954. 147 pp., $7.50

The New Small House. F. R. S. Yorke & Penelope Whiting. The British Book Centre, Inc., 122 E. 55 St., New York 22, 1954. 144 pp., illus., $5.50

City Region and Regionalism. Robert E. Dickinson. Routledge & Kegan Paul Ltd., Broadway House, 68-74 Carter Lane, London, England. Distributed by the Grove Press, 795 Broadway, New York 3, N. Y., 1954. 327 pp., illus., $5

SIMPSON CERTIFIED
USING GENUINE Simpson ACOUSTICAL PRODUCTS
ACOUSTICAL CONTRACTORS

NOW INSTALLING Forestone ACOUSTICAL TILE

Fissured for beauty... Fiber for economy

ALABAMA
Badham Insulation Co., Inc., Birmingham
Stokes, Inc., Mobile

ARIZONA
Fiberglas Engineering & Supply Co., Phoenix
Hall Insulation & Tile Co., Tucson

CALIFORNIA
Coast Insulating Products, Los Angeles and San Diego
Cramer Acoustics, San Francisco and Fresno

COLORADO
Construction Specialties Co., Denver

CONNECTICUT
Wilson Construction Company, East Hartford, Bridgeport

GEORGIA
Dumas and Searl, Inc., Atlanta

ILLINOIS
General Acoustics Co., Chicago

INDIANA
The Baldus Co., Inc., Fort Wayne
E. F. Marburger & Son, Inc., Indianapolis

IOWA
Kelley Asbestos Products Co., Sioux City

KANSAS
Kelley Asbestos Products Co., Wichita

KENTUCKY
Atlas Plaster & Supply Co., Louisville

LOUISIANA
Ideal Building Materials, Inc., Shreveport

MARYLAND
Lloyd E. Mitchell, Inc., Baltimore

MASSACHUSETTS
Acoustical Contractors, Inc. Brighton

MICHIGAN
Detroit Fiberglas Insulation Division, Detroit

MINNESOTA
Dale Tile Company, Minneapolis

MISSISSIPPI
Stokes, Inc., Jackson

MISSOURI
Hamilton Company, Inc., St. Louis
Kelley Asbestos Products Co., Kansas City

NEBRASKA
Kelley Asbestos Products Co., Omaha

NEW JERSEY
Kane Acoustical Co., Fairview

NEW MEXICO
Fiberglas Engineering & Supply Co., Albuquerque

NEW YORK
Davis Acoustical Corp., Albany
Davis-Fetch & Co., Inc., Buffalo, Rochester and Jamestown
Robert J. Harder, Inc., Lynbrook, L. I.
James A. Phillips, Inc., New York

NORTH CAROLINA
Bost Building Equipment Co., Charlotte

OHIO
R. B. Brunemann and Sons, Inc., Cincinnati
The Mid-West Acoustical & Supply Co., Cleveland, Akron, Columbus, Dayton, Springfield and Toledo

OKLAHOMA
Harold C. Parker & Co., Inc., Oklahoma City
Kelley Asbestos Products Co., Tulsa

OREGON
Acoustics Northwest, Inc., Portland
R. L. Elfstrom Co., Salem

PENNSYLVANIA
General Interiors Corporation, Pittsburgh

SOUTH CAROLINA
General Insulation & Acoustics, Inc., Columbia

TEXAS
Blue Diamond Company, Dallas
Fiberglas Engineering & Supply Co., El Paso
Builder's Service Co., Fort Worth
Otis Massey Co., Ltd., Houston

UTAH
Utah Pioneer Corporation, Salt Lake City

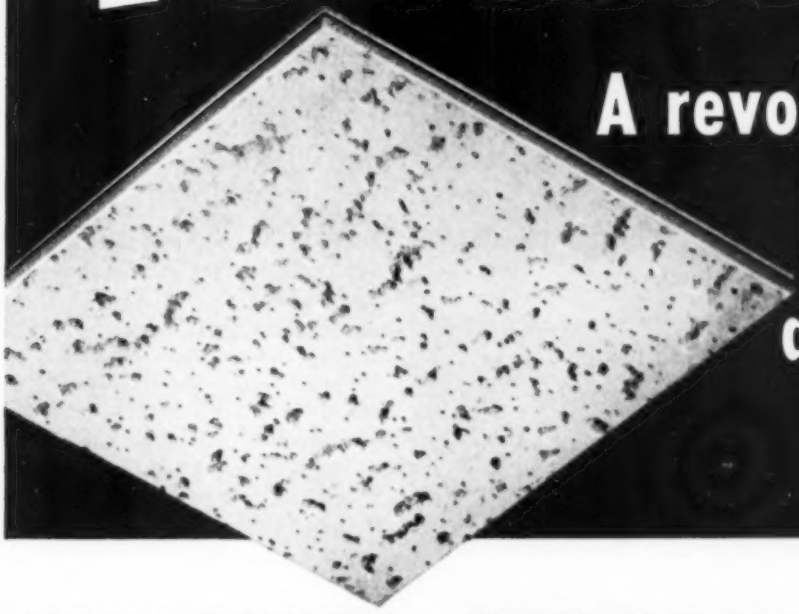
VIRGINIA
Manson-Smith Co., Inc., Richmond

WASHINGTON
Elliott Bay Lumber Co., Seattle
Fiberglas Engineering & Supply Co., Spokane

WISCONSIN
Building Service, Inc., Milwaukee

CANADA
Albion Lumber & Millwork Co., Ltd., Vancouver, B. C.
Hancock Lumber Limited, Edmonton, Alberta

Simpson Forestone



A revolutionary NEW acoustical product

FISSURED *WOODFIBER* TILE

Fissured beauty **in the price range of perforated woodfiber tile...**

The world's *first* fissured woodfiber tile, the world's *first* practical square-edge fiber tile (also available in beveled-edge)... costs up to 35% less installed than fissured mineral tile.

Available only through the Simpson Certified Acoustical Contractors listed on opposite page

Ask the Simpson Certified Acoustical Contractor nearest you to show installations or photos... or mail this coupon *today* for more information.

ACA—46

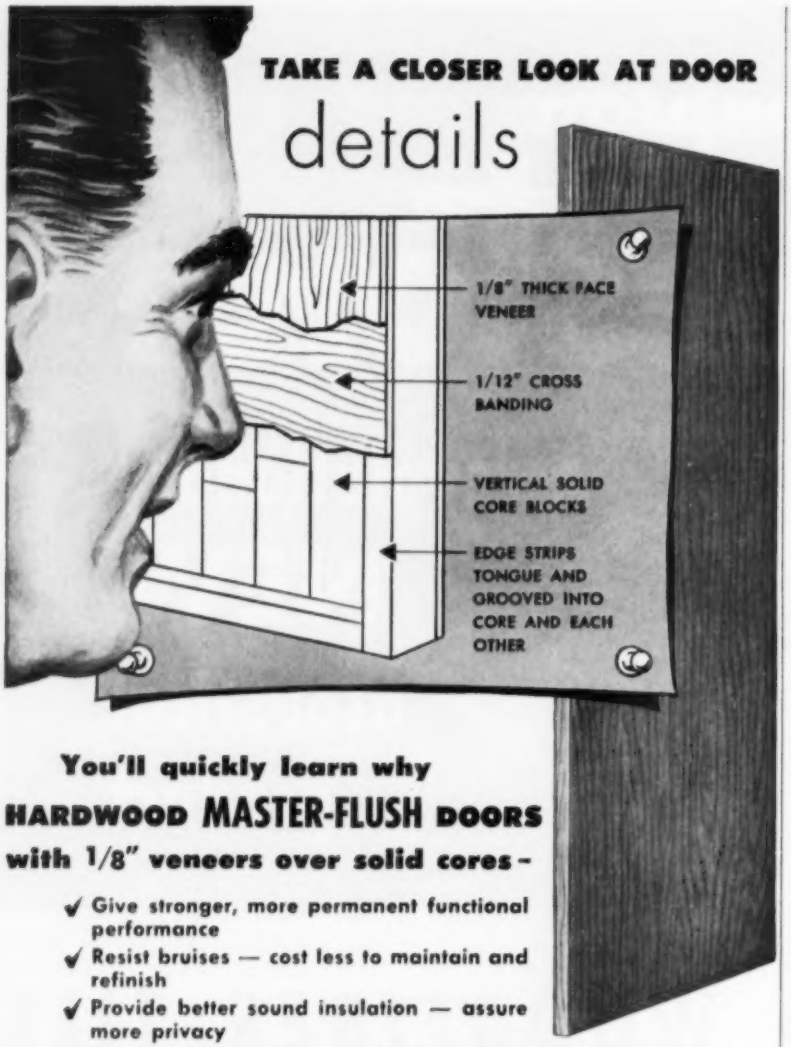
Simpson Logging Company
1010 White Building, Seattle 1
Please send full details on Forestone Acoustical Tile

NAME_____

ADDRESS_____

CITY_____ STATE_____

SIMPSON LOGGING COMPANY AT SHELTON, WASHINGTON


TAKE A CLOSER LOOK AT DOOR
details
1/8" THICK FACE VENEER
1/12" CROSS BANDING
VERTICAL SOLID CORE BLOCKS
EDGE STRIPS TONGUE AND GROOVED INTO CORE AND EACH OTHER

You'll quickly learn why

HARDWOOD MASTER-FLUSH DOORS

with 1/8" veneers over solid cores –

- ✓ Give stronger, more permanent functional performance
- ✓ Resist bruises — cost less to maintain and refinish
- ✓ Provide better sound insulation — assure more privacy
- ✓ Permit hardware, louvre or light applications in *any area.*

When you want the best for institutional requirements specify Hardwood Products' MASTER-FLUSH Doors—especially where unusually hard usage and abuse are expected. They feature Hardwood Products' *solid core* construction for exceptional strength and rigidity. This consists of vertical core blocks in alternate random lengths with edge strips tongue and grooved *into the core and into each other.* Cross banding for stability and additional strength — plus 1/8" thick face veneers hot plate press bonded, makes exceptionally solid unit. A full range of wood veneers is available. Consult Sweet's 15c/HA or write for further details.

Write for this brochure describing Hardwood Products Sound-Insulating Doors in easy-to-understand sound decibel language.

NEW YORK
BOSTON • CHICAGO
CLEVELAND

HARDWOOD PRODUCTS CORPORATION DOORS

HARDWOOD PRODUCTS CORPORATION • NEENAH • WISCONSIN

reviews

(Continued from page 196)

taken down after the Festival of Britain ended. The Dome deserved preservation!

The design of many of the included buildings is clearly derivative; the influence of Continental architecture is obvious. Is corresponding American work less derivative?

Each building and project is analyzed and discussed on the same bases: planning, techniques, economics (costs), and esthetics; a helpful item, one not common enough in American architectural books, is the author's frank and critical comment on each work.

The book was not written solely for American readers. Such readers will not be vitally interested in the lengthy lists of local subcontractors, material purveyors; and conceivably not in such trade items, among others, as "asphalte, ironmongery, lagging, cladding, rainwater goods."

The illustrations have captions in English, French, and German; in reproduction many are too small; some of the photographs are dark, obscure, lacking detail.

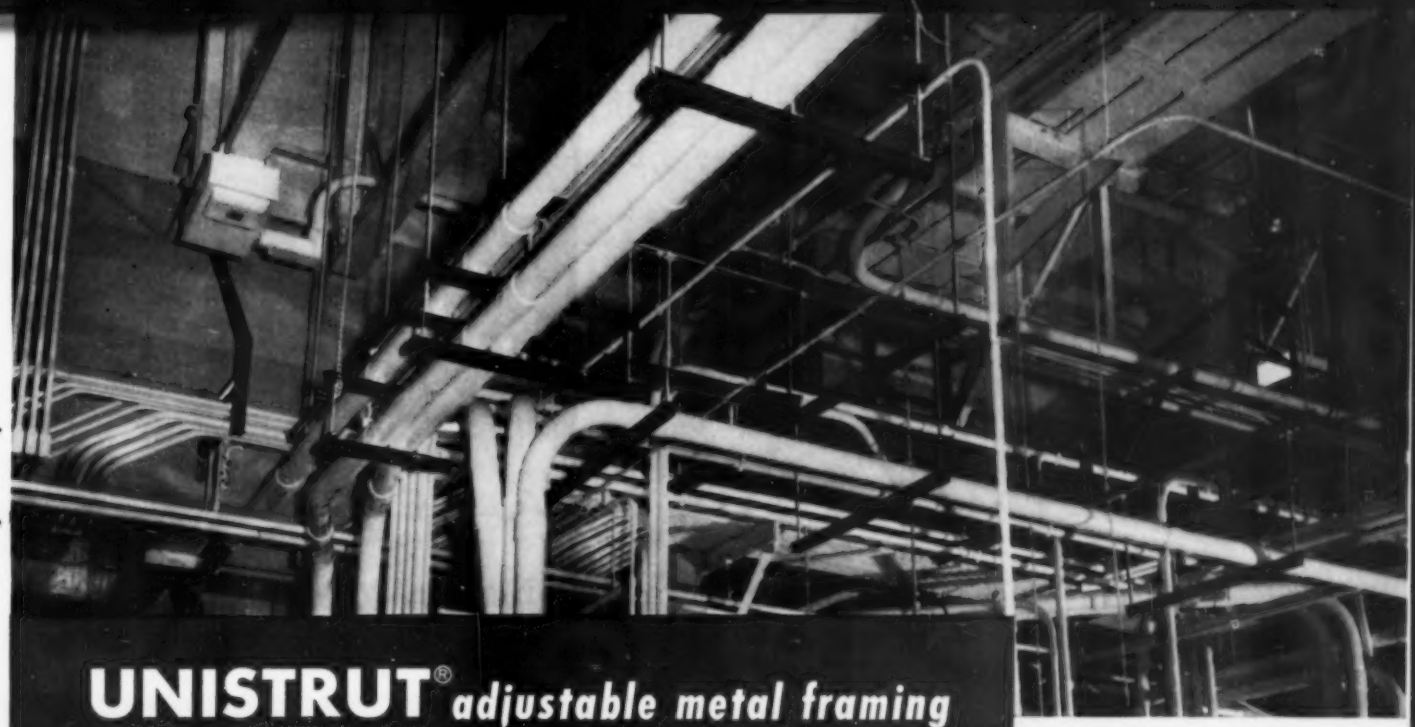
Loose construction and inaccurate word choice frequently obscure the author's meaning, but despite its shortcomings, the book offers much that will be rewarding and interesting to the architect-reader. LAWRENCE E. MAWN

tribute to pioneer

Charles Rennie Mackintosh and the Modern Movement. *Thomas Howarth. George Wittenborn, Inc., 38 E. 57 St., New York 22, N. Y., 1953. 329 pp., illus., $10*

The structural imagination and visual expectancy of our generation seem so thoroughly different from those of the Scottish architect and designer, Charles Rennie Mackintosh, that it seems hard to see him as one of the most decisive pioneers of the modern movement. In his thorough and scholarly work on Mackintosh, Thomas Howarth takes great pains to prove how Mackintosh's work, together with the better known works of *l'Art Nouveau*, the Vienna *Sezession*, and the German *Jugendstil* became one of the

(Continued on page 203)



UNISTRUT® *adjustable metal framing solves complex pipe supporting...*

Supporting piping in difficult places is easy to accomplish with adjustable UNISTRUT framing. Note the many different arrangements and angles supported. Pipe clamps, too, are part of the UNISTRUT system.

VERSATILE SYSTEM INSTALLS QUICKLY, ON THE JOB...SAVES TIME AND MONEY FOR ELI LILLY AND COMPANY

Complicated piping such as in the Eli Lilly and Company pharmaceutical plant at Indianapolis, Indiana, required supporting capable of working in difficult spots, around corners, bends...a supporting that could be put up quickly, yet economically.

UNISTRUT framing was the ideal solution. For this quick-erected system is simply cut and bolted together, custom fit to the job. No welding, drilling or skilled labor required. UNISTRUT framing reduces engineering detailing and installation time. And it is completely adjustable, permitting alterations or changes at any time.

Supporting shown here was erected from stock channel, fittings, beam clamps, pipe rollers—all part of the complete UNISTRUT framing system. This versatile framing method will save you hours and dollars on thousands of mechanical and electrical supporting jobs. See your UNISTRUT Distributor for complete details, or send the coupon for a free copy of the UNISTRUT handbook.

CUT AND BOLT TOGETHER

USE A HACKSAW AND WRENCH

NO DRILLING, NO WELDING

100% ADJUSTABLE AND RE-USABLE

Bring UNISTRUT to your door—ask to see our demonstrator car.

The World's Most Flexible All-Purpose Metal Framing

UNISTRUT

U. S. Patent Numbers
2327587 2329815 2345650
2363382 2380379 2405631
2541908 Other Patents Pending

SEE OUR CATALOG IN SWEET'S

Warehouse stocks and distributors in all principal cities. In Canada, Northern Electric Company. For Export, Pressed Steel Car Company, New York, N. Y. Consult your telephone directories.

Free Handbook!
84 pages, electrical and mechanical installations with UNISTRUT framing.

UNISTRUT PRODUCTS COMPANY, Dept. S-9
1013 W. Washington Blvd., Chicago 7, Illinois

Name.....

Company.....

Address.....

City.....*Zone*....*State*.....

the last word in quiet and
versatility...at moderate cost

CORRUTONE

METAL ACOUSTICAL PANEL

a new concept in ceiling design

Here is another *first* from United States Gypsum, leader in the development of quality sound control materials. It's new incombustible CORRUTONE with an exceptionally high acoustical efficiency—.85 NRC.

CORRUTONE consists of a prefabricated electro-galvanized, bonderized enameled steel panel upon which rests a fire-resistant, highly sound-absorbent mineral wool pad. It offers these outstanding advantages:

Beauty Striking in its simplicity, CORRUTONE enhances almost any architectural design.

Economy No costly ceiling construction necessary, because CORRUTONE is installed with U.S.G.'s famous E-Z-S Suspension System.

Accessibility Any point above the ceiling can be easily reached for maintenance of services by sliding back or lifting up and removing panels.

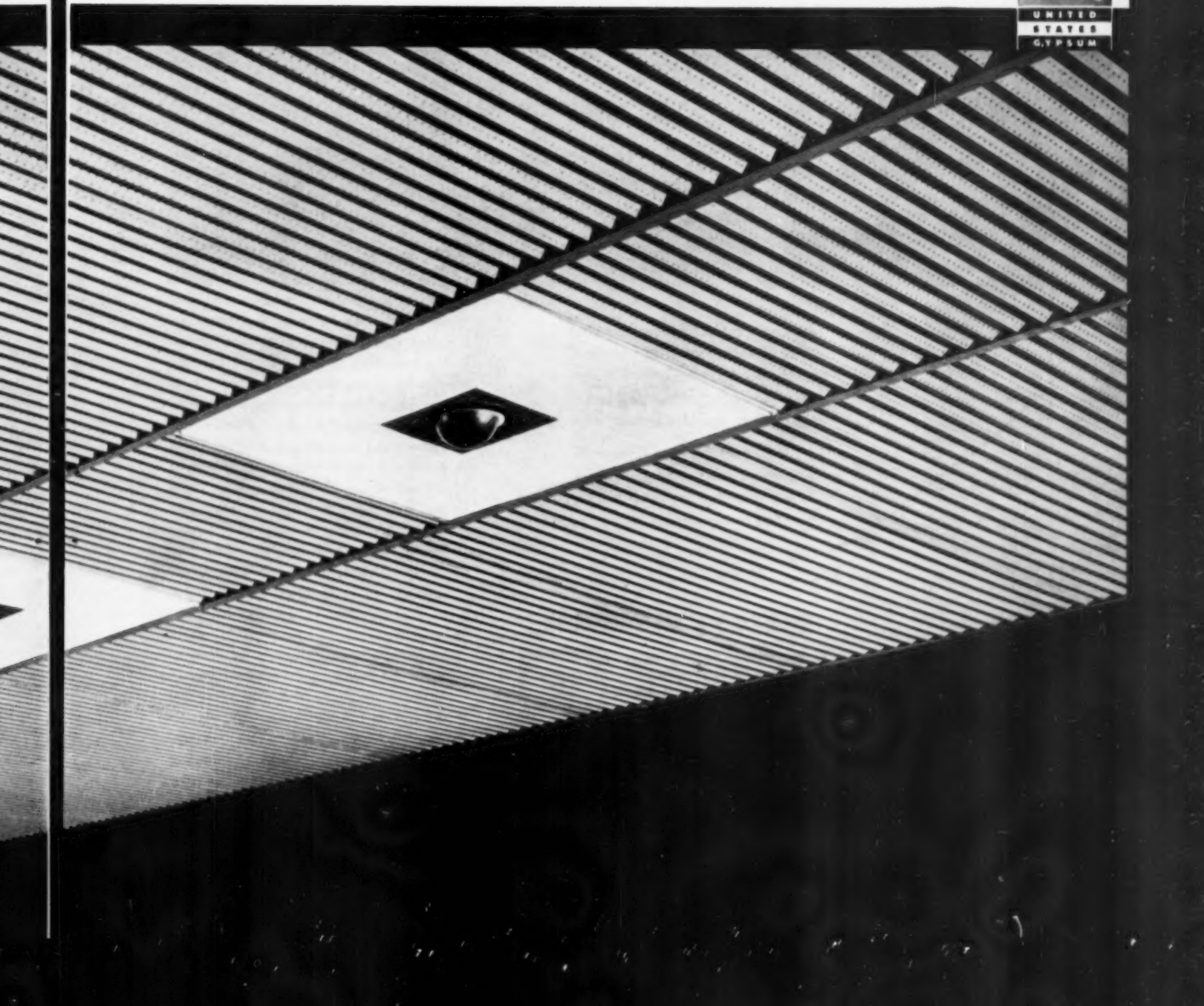
Adaptability Ideal for new construction, or for lowering ceilings in existing buildings. Simplifies installation of lighting, ducts, plumbing, etc.

Maintainability Finished with two coats of baked-on enamel, CORRUTONE is readily washable and can be painted repeatedly, permitting quick and easy maintenance.

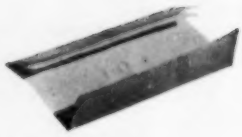
SOUND CONTROL IS A JOB FOR EXPERTS
For complete drafting room details and other information or assistance, contact your nearby ACOUSTONE* tile contractor or write Dept. PA-4, 300 West Adams Street, Chicago 6.

*T.M. Reg. U.S. Pat. Off.

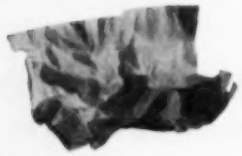
UNITED STATES GYPSUM
the greatest name in building



SAVE SPACE...



dispense and dispose



in one recessed unit

specify Scott-designed fixtures

Saving space is an important element in washroom design. Modern, functional, Scott-designed Fixtures help eliminate traffic-jams—make for cleaner, easier maintenance.

A full-color booklet on functional washroom design and planning is now available. For your free copy, mail this coupon today.

SCOTTISSUE®
TOWELS
Symbol of the right kind of washroom

SCOTT PAPER COMPANY
Dept. PA-9, Chester, Pa.
Please send me your full-color booklet.

Name_____
Address_____
Company_____
City_____ State_____

reviews

(Continued from page 198)

starting points of present-day architecture.

Victor Horta, Henry van de Velde, and Josef Hoffmann, toward the end of the '90s, had begun erecting the first non-eclectic buildings; the Vienna *Sezession* had been founded; *l'Art Nouveau* had been opened in Paris by S. Bing; and at the same time the first sketches, projects, posters, and furniture designs were published by Mackintosh. From then on, a lively exchange of ideas between him and the various Continental groups took place and the mutual influence was so strong that the priority of any specific concepts is hard to state—of course decided by Howarth mostly in favor of Mackintosh. Even such masters as Peter Behrens, Adolf Loos, and to a certain degree, Frank Lloyd Wright, in details of their work, paid tribute to Mackintosh. Nikolaus Pevsner in *his Pioneers of the Modern Movement* had already traced these connections, but Howarth is the first to scrutinize and evaluate the compass of his influence.

Since Mackintosh's architecture and interior decoration in their playful romanticism are about the opposite of what we are striving for today, it requires detailed study and an exact knowledge of the prevailing taste during the two last decades of the eclectic 19th Century, to give Mackintosh his due credit. The common denominator for the creations of this pioneer and modern architecture, boiled down to a rather simplified definition, is the radical negation of all eclectic copying and the creation of a thoroughly novel vocabulary of line and form—"novel" notwithstanding the fact that Mackintosh's form of decorative detail seems today as historical as any Gothic or Rococo ornamentation. In his exact analysis of each single work, Howarth has succeeded in clarifying the development and in giving a consistent picture of the extremely exciting prenatal period of modern architecture. Carefully selected illustrations and an excellent comparative chronology of the development of the modern movement add to the value of this publication. PAUL ZUCKER

(Continued on page 205)

Bamboo-textured Bolta-Wall tiles, made of BAKELITE Vinyl Resins by **Bolta Corp.**, Lawrence, Mass.

Soft-texture effect...Hard-service economy

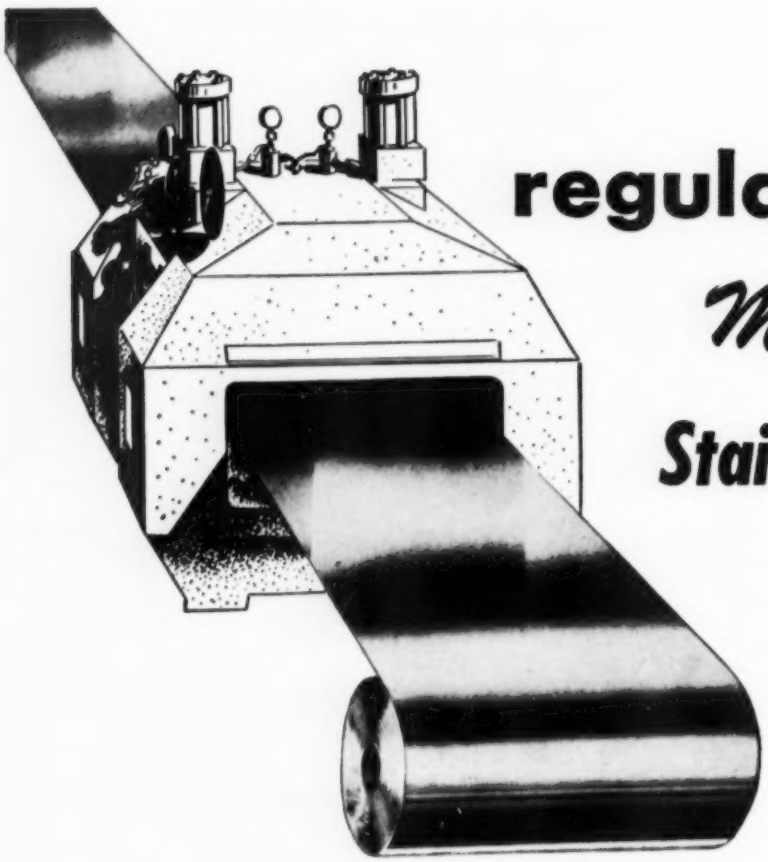
There's inspiration for new effects in wall decoration with flexible wall squares made of BAKELITE Vinyl Resins . . . and the cleanability, extra wear, and ease of installation bring the same low maintenance and in-service costs that always feature floor and wall coverings made of these resins.

Leather-grained, mahogany-textured, solid color or bamboo-textured, this wall covering is flexible . . . in tile or continuous rolls. You can bend it, fold it, curve it around corners. It doesn't stretch or shrink . . . seams stay tight. Apply it over new or old walls—plaster, wallboard, plywood. A cushiony backing absorbs wall-surface roughness.

It's easily washable with mild soap and a sponge, and needs no periodic refinishing. That's natural, because the exposed surface is made of BAKELITE Vinyl Resins. It resists scuffing, scratching, fading, grease, fruit stains, alcohol and other chemicals.

BAKELITE
TRADE MARK
VINYL RESINS
TRADE MARK

BAKELITE COMPANY, *A Division of Union Carbide and Carbon Corporation,* 30 East 42nd Street, New York 17, N. Y.



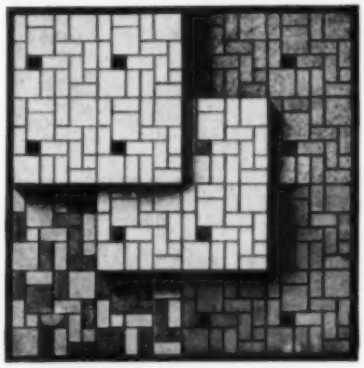
regular use of *MicroRold®* Stainless Sheets

SAVES MONEY!

Stainless sheets are usually ordered by gauge number—with permissible A.I.S.I. thickness variation of plus or minus 10%—but are sold on a weight basis. Thus, you may order 18 gauge, needing about .0475″ thickness, and receive .052″ thickness. But MicroRold may be held to a 3% plus or minus tolerance; and you may order by gauge number, specifying that it be rolled on the "light side" of the gauge range. While these savings may not be apparent in every single sheet of MicroRold, the weights will average less than the theoretical when figured over a period of time. These savings can be substantial in your annual profit picture.

Washington Steel
CORPORATION
WASHINGTON, PENNSYLVANIA

TILES by SPARTA



SPARTAN MOSETTES

An extremely versatile natural clay type tile, available in full range of attractive unglazed colors. Sizes 1x1, 2x1, 2x2, ¼" thick. Rugged, impermeable, slip resistant, with high degree of vitrification. Mounted in choice of unlimited patterns for easy and inexpensive setting, even in irregular spaces.

A most practical tile for floors in Schools, Hospitals, Institutions and Swimming Pools.

Other Spartan Specialties include:

DRESDEN PORCELAIN — A vitreous porcelain body tile in sizes 2x2, 2x1 and 1x1 approx. Eleven attractive colors to harmonize with or match glazed wall tile. Stain resistant. Easily cleaned. For residential and light duty commercial floors.

CONDUCTIVE TILE — A much needed tile for Hospital Operating Rooms. Provides a conductive medium to dissipate electrostatic charges on personnel and equipment in contact with floor. Meets all specified requirements of National Fire Protective Assoc. Bulletin No. 56.

Write for Complete Information

THE SPARTA CERAMIC CO.

One of the Largest Manufacturers of Floor Tile Since 1922

MEMBER TILE COUNCIL AND THE PRODUCERS' COUNCIL

P.O. BOX 4, EAST SPARTA, OHIO

reviews

(Continued from page 203)

past and future

Rebuilding the Land of Israel. *Gershon Canaan. Architectural Book Publishing Co., Inc., 112 W. 46 St., New York 36, N. Y., 1954. 205 pp., illus., $12.50*

In a handsome, profusely illustrated volume, Gershon Canaan, a young Israeli architect now studying in the United States, gives us a picture of his country's architecture, past and present. Of course, since the new State of Israel has had so short a history and so stormy a one, it is not surprising that the bulk of the material deals with antiquity. There has not been time for the new nation to make much more than a beginning, architecturally speaking.

Canaan has wisely, therefore, given us generously of what is known of the Palace of Solomon, 1000 B.C., the Pyramid of Zacharias, 600-100 B.C. and many other fascinating monuments of the past, with photographs and drawings to enrich the text. He has also provided a number of charts showing climactic conditions in various regions of Israel, together with other design data which might be of use to architects practicing in Israel, if they do not already have this information. Of contemporary work, not very much appears that strikes the eye as being worthy of inclusion, with the exception of several buildings erected in the '30s, by Eric Mendelsohn—notably the Chaim Weizman House and the Bank of Israel Building—and a Tel Aviv apartment house of a later period (1949), built with considerable sophistication by D. Karmi.

The author frequently mentions the "organic" trend of Israel architecture, which will bring forth a new expression rooted in the soil of the land. He makes it sound so attractive that one almost wishes he had postponed his book until the happy day when he could show us the trend in action. Unfortunately, the major portion of even the most modern work in Israel today is still heavily under the influence of German functionalism of the '20s. In addition, as Canaan expresses it,

(Continued on page 208)

COLESHILL HOUSE

BERKSHIRE, ENGLAND
INIGO JONES, ARCH'T

Completed 1662

In that same year, 1662, nearly 300 years ago, the first Staedtler pencils were produced in Nurnberg, Germany. Since then Staedtler has made constant improvement in pencil design and manufacture. Today the 2886 Mars-Lumograph is America's finest imported drawing pencil; in the clutch pencil field, the combination of the new 1001 Technico Mars-Lumograph push-button lead holder and 1904 Mars-Lumograph imported drawing leads insures your having the very best.

The 2886 Mars-Lumograph drawing pencil gives you precise thickness and the blackness of line needed for crisper, cleaner prints. Perfectly graded in 19 degrees; EXEXB to 9H. $1.50 per dozen—less in quantity.

The 1001 Technico Mars-Lumograph push-button lead holder costs no more than ordinary holders, has a noiseless, smooth-working, low-friction clutch mechanism, lightweight wood construction with perfect balance and, built into the push-button cap, a unique lead sharpener. $1.50 each—less in quantity.

1904 Mars-Lumograph Imported Drawing Leads are so opaque that inking-in is not necessary. Leads are ribbed for firm clutch grip and each has a removable cap which prevents sliding from holder. Available in 18 degrees; EXB to 9H. $1.20 per dozen—less in quantity.

J.S. STAEDTLER, INC.

26 DICAROLIS COURT
HACKENSACK, NEW JERSEY

. . . only
METAL LATH
AND PLASTER

give you complete design freedom

Metal lath is the only contemporary plaster base that can be shaped, curved, and formed to achieve the exact architectural effect you want.

On this base, plastering artists faithfully execute your ideas. Using metal lath and plaster construction, you gain complete freedom of design. Your ideas are not bound by structural limitations that confine you to straight lines and flat surfaces. No other wall and ceiling materials are so versatile and flexible.

This time-proved construction gives you other benefits, too. Beauty. Decoration. Fire-resistance. Earthquake-resistance.

To help you utilize plastered surfaces most effectively, Truscon manufactures more than forty different metal lath items and accessories. They are approved by all building codes and accepted by plastering contractors. More facts in Sweet's; or, write for Truscon's complete catalog, "Modern Masterpieces of Architectural Molding." It's a handy guide to metal lath and plaster construction.

For complete specifications, see Metal Lath Manufacturers Association Catalog in Sweet's Architectural File, Section 11a/Me.

TRUSCON®

TRUSCON
MARK OF MERIT PRODUCTS

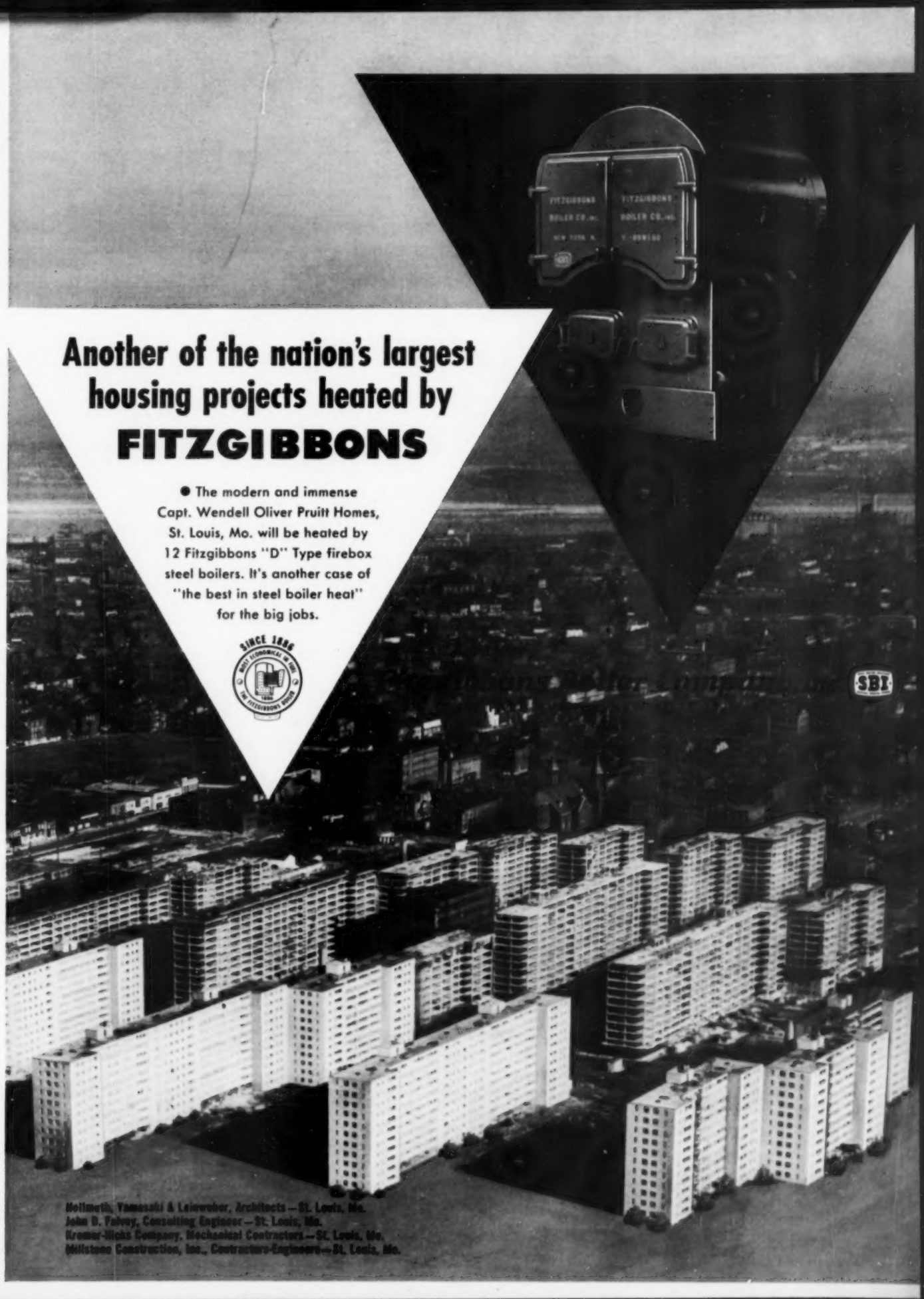
TRUSCON STEEL DIVISION
REPUBLIC STEEL

REPUBLIC STEEL

1060 ALBERT STREET • YOUNGSTOWN 1, OHIO
EXPORT DEPT.: CHRYSLER BLDG., NEW YORK 17, N.Y.

A NAME YOU CAN BUILD ON

METAL LATH FOR STRENGTH . . . PLASTER FOR BEAUTY


Another of the nation's largest housing projects heated by
FITZGIBBONS
● The modern and immense Capt. Wendell Oliver Pruitt Homes, St. Louis, Mo. will be heated by 12 Fitzgibbons "D" Type firebox steel boilers. It's another case of "the best in steel boiler heat" for the big jobs.
SINCE 1886
SBI
Hellmuth, Yamasaki & Leinweber, Architects—St. Louis, Mo.
John D. Falvey, Consulting Engineer—St. Louis, Mo.
Kramer-Hicks Company, Mechanical Contractors—St. Louis, Mo.
Millstone Construction, Inc., Contractors-Engineers—St. Louis, Mo.

when there's more than one floor .... think of

Sedgwick

IN COMMERCIAL AND INDUSTRIAL BUILDINGS
CORRESPONDENCE LIFTS AND DOORS
SIDEWALK ELEVATORS
to move loads from floor to floor and to make better use of space
FREIGHT WAITERS
DUMB WAITERS AND DOORS
IN RESIDENCES
RESIDENCE ELEVATORS
STAIR TRAVELORS
to add one-floor convenience
Sedgwick furnishes safe, modern vertical transportation equipment to fit in with your plans. Quality performance is assured by 60 years of constant improvements and engineering advances. Specified by three generations of architects. For free specification service and engineering recommendations, write:

Sedgwick
MACHINE WORKS
164 WEST 15th ST., NEW YORK 11

Specialists in Vertical Transportation Since 1893

reviews

(Continued from page 205)

". . . prevailing shortages of money, materials, and labor were the excuses for the . . . monotony of our cities. Often, though, no architect could be blamed, for no architect was involved."

It seems a mistake on the author's part to include several of his own drawings of proposed buildings, since their import is somewhat marred by the failure of plans to agree with elevations, and by some surprising shadows. He would have gratified the reader much more if he had stayed closer to the title of his book and given us some surveys of actual accomplishments in such fields as housing, industrial buildings, governmental buildings, and so forth. The book is rather thin in these respects. However, this lack is more than recompensed by the richness of the historical material. EUGENE RASKIN

better neighborhoods

The Community Builders Handbook. *Prepared by the Community Builders' Council of the Urban Land Institute. Edited by Max S. Wehrly and J. Ross McKeever. Urban Land Institute, 1737 K Street, N.W., Washington 6, D. C., 1954. 314 pp., illus., $12*

This volume offers a study of the phenomena, facts, figures of two important phases of community building: residential tracts and shopping centers.

Similar facets of both are discussed: the necessary preliminary surveys and market analyses; site selection, planning, development; the economical, political, topographical, architectural, structural, mechanical features; and finally the control, maintenance, and management of the finished project.

Ample informative details, data, charts, tables are included. (More photographs and drawings would have been helpful.)

The contents are well arranged for easy reading and understanding. The text is clear, terse, businesslike; the result is an impressive handbook, providing valuable background information.

LAWRENCE E. MAWN

school architects: regardless of how much more you might spend, you cannot buy a more practical or a more dependable school sound system than a Bogen

A system for every budget, functionally designed according to the recommendations of the U. S. Office of Education, and built by the country's largest manufacturer of sound systems.

David Bogen Co., Inc.
29 Ninth Ave., N.Y.14.

see catalog 31a/Bo in Sweet's File

Just STAINLESS STEEL SINKS and CABINET TOPS

Meet Highest Architectural Standards

For many years, America's leading manufacturers of top quality residential kitchen cabinets—enameled steel and wood—have turned to the JUST Manufacturing Co. for the very finest in stainless steel sinks and cabinet tops because:—

JUST craftsmanship assures perfect fit for their cabinets.

JUST design gives unlimited freedom in planning to conform to modern architecture.

JUST precision construction reduces installation costs by eliminating "on-the-job" alterations.

And only in Just Line stainless steel products do you get ALL these features:—

- Patented Anti-Splash Rims around the entire perimeter of sink bowls.
- Patented double pitched drainboards.
- Seamless welded one-piece construction for utmost sanitation.
- Maximum use of heavy gauge stainless steel for lifetime durability.

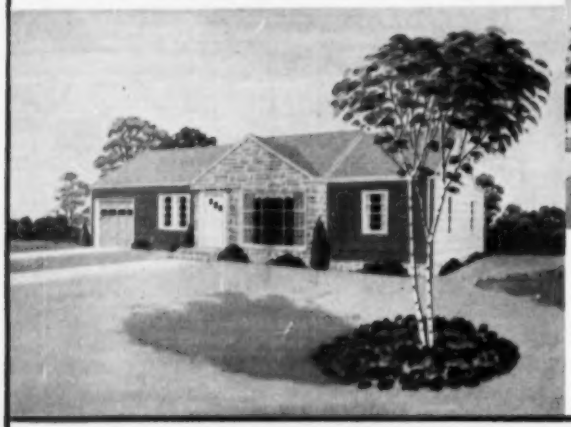
For further information, see our Catalog 25-B in Sweet's Architectural File or write today for illustrated literature and name of your nearest field representative.

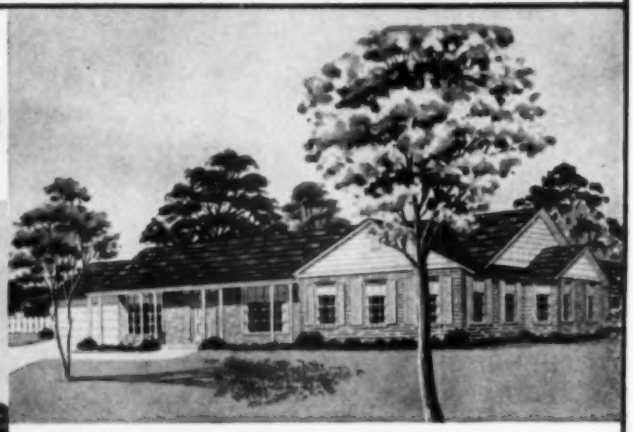
Just Manufacturing Co.
9233 KING AVENUE
FRANKLIN PARK, ILL.
IN THE GREATER CHICAGO INDUSTRIAL DISTRICT

THE GREATEST NAME IN *QUALITY* STAINLESS STEEL PRODUCTS

New freedom of Design...

For the $60,000 home





or the $12,000 home...

with **U. S. RUBBER'S**

USKON® Electrically-Heated Ceiling Panels

Uskon offers these advantages:

1. The architect obtains valuable extra cubage to work with—no space wasted on placement of radiators, furnaces, pipes, ducts.

2. The builder obtains in Uskon a new modern feature that makes the house more desirable—hence sells better.

3. The buyer obtains a trouble-free heating system. It flicks on and off automatically or with a switch—none of the grit or grime or costly and troublesome maintenance that results from other heating systems.

Uskon panels are quickly and easily applied to the ceiling. Developed and produced by United States Rubber Company, Uskon has been tried and proven for several years with complete success in homes, apartments, commercial and industrial buildings, bathrooms, sun porches, game rooms, garages, summer cottages, basements, motels.

For technical data and complete information, write to U. S. Rubber at the address below.

US RUBBER

UNITED STATES RUBBER COMPANY

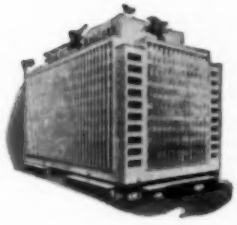
USKON SALES DEPARTMENT • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

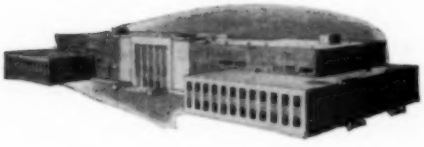
There's REALLY A BIG DIFFERENCE

IN LIGHTWEIGHT AGGREGATES!

LEVER HOUSE
New York City. Zonolite Plaster Fireproofing. Architects — Skidmore, Owings & Merrill. General Contractor—George A. Fuller Co.

GENERAL PETROLEUM BUILDING
Los Angeles, California. Zonolite Plaster Fireproofing. Architects—Wurdeman & Becket.





COURT HOUSE
Tampa, Florida. Zonolite Plaster. Assoc. Architects & Engineers—Reynolds, Smith & Hills, Jacksonville.

ZONOLITE®

The Lightweight Champion Has a Record Unmatched by Any Other Lightweight Product

★ ***Time-Tested.*** Zonolite Plaster and Concrete have been PROVED reliable in buildings constructed over 20 years ago!

★ ***Research.*** Zonolite Company maintains the only laboratory devoted to research in lightweight materials.

★ ***Conformance to Standards.*** Zonolite Brand Vermiculite rigidly conforms to ASTM specifications. Plaster—ASTM C35-52T. Concrete—ASTM C33-49.

★ ***Quality Control.*** Uniformity of particle size and product density is controlled at the mines, at processing plant and spotchecked at Evanston Research Lab.

★ ***Competent Personnel.*** Zonolite is processed by technical experts working with the industry's most advanced production facilities.

★ ***Technical Service.*** Speedy counsel on mixes and application.

The superiority of Zonolite aggregates over *other* lightweight materials is a matter of record. Buildings erected over 20 years ago stand as a dramatic reminder that Zonolite is the lightweight champion, the outstanding choice with America's leading architects. Zonolite *is more uniform*...easier to *handle*, cuts building *time* and *costs* to a minimum! And Zonolite is backed by research and technical service not offered by any other lightweight aggregate producer. These are some of the reasons architects specify not just "lightweight aggregates"...but the acknowledged lightweight champion of them all: *Zonolite Plaster and Concrete Aggregates.*

ZONOLITE BRAND VERMICULITE AGGREGATES

ZONOLITE COMPANY

135 S. LaSalle Street • Chicago 3, Illinois

Mail Coupon Today!

Zonolite Company, Dept. PA-94
135 S. LaSalle St., Chicago 3, Illinois

Please send me descriptive literature and specification data on Zonolite Lightweight Aggregates.

Name.....

Firm.....

Street.....

City.....*Zone*....*State*.....

pa JOBS AND MEN

Advertising Rates

Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (any address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Men, c/o Progressive Architecture, 430 Park Avenue, New York 22, N. Y. Insertions will be accepted not later than the 1st of the month preceding publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

SITUATIONS OPEN

OPPORTUNITY—for architectural designer between 35 and 45 years of age. Permanent future assured for qualified man. Give complete information in first letter. Box 143, PROGRESSIVE ARCHITECTURE.

EXPERIENCED ARCHITECTURAL DRAFTSMAN—of at least eight or ten years experience, competent to prepare working drawings from preliminary sketches and competent to handle position as squad leader. Permanent position. Write air mail, training, salary required, and availability. Ursa Louis Freed, A.I.A., Architect, Aberdeen, S. Dak.

ARCHITECT—under forty with design ability and willing to re-locate in Midwest. Position involves supervising completion of working drawings for the construction and remodeling of buildings for a large national commercial organization. Right man has opportunity to eventually become chief architect. Salary open. Send replies to Box 153, PROGRESSIVE ARCHITECTURE.

WANTED AT ONCE—architectural draftsman, permanent position. Work consists mainly of schools, churches, public buildings and some residence work. Applicant submit resume giving experiene, salary requirements and availability. A. F. Billmeyer & Son, Wisconsin Rapids, Wis.

SITUATIONS WANTED

ARCHITECT—over 20 years' experience on institutional, commercial and large industrial projects. Experienced in preliminary design, specifications, supervising the work of others, coordination or complete charge of office. Desire position of responsibility and opportunity. Please give details in reply. Box 146, PROGRESSIVE ARCHITECTURE.

JUNE GRADUATE—architecture—Washington University, St. Louis, Mo. Desires position with firm doing contemporary architecture in progressive community. Will consider any locality, preferably south and southwest. Married, two children. Will furnish detailed information upon request and arrange for interview at later date. Box 148, PROGRESSIVE ARCHITECTURE.

CALIFORNIA LICENSED ARCHITECT—wishes to purchase interest in an architectural firm. 42, married, pleasant disposition, completely experienced and capable. Box 149, PROGRESSIVE ARCHITECTURE.

SPECIFICATION WRITER—long experience, schools, hospitals, industrial, institutional, multi-story construction. Thorough knowledge construction details, field supervision, as check on working drawings. Direct, orderly, clear, concise, complete. Rapid, dependable. Handle several projects simultaneously. Executive ability. Now employed. Detailed information at interview. Prefer Chicago, New York or vicinity either. Box 150, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN-DESIGNER—with long experience in various types of buildings, public, recreational, industrial, efficiency apartments and schools. Especially proficient on theatres, stores and churches. Registered architect by examination. Accomplished renderer; can make perspectives and aero views in water color. Good in working drawings, detailing. 6046 Dorchester Ave., Apt. 3-B, Chicago 37, Ill.

ARCHITECTURAL DESIGNER—28, married, two children, Kansas University, 1949. Five years chief designer-draftsman, small office of top Oklahoma-Kansas Architect. Large residential, first class institutional, and commercial work. Giving up position to seek residence and career in warm coastal or mountainous metropolitan region. Leaving November 1. Box 151, PROGRESSIVE ARCHITECTURE.

REGISTERED ARCHITECT—A.I.A., A.I.P. M. of Arch., 31. Desires permanent position as designer with possibilities of partnership or association. Experienced in architectural design and site planning. Designs published in U. S. and Europe. Box 152, PROGRESSIVE ARCHITECTURE.

MISCELLANEOUS

MURIEL FEDER-ARCHITECTURAL & DESIGN PERSONNEL AGENCY—a personalized placement service for top-level architects, designers, engineers, draftsmen, estimators, and interior designers, selective contacts arranged in a confidential and professional manner. Interviews by appointment. 58 Park Avenue, New York. Murray Hill 3-2523.

CAREER BUILDERS PLACEMENT SERVICE—for Architects, Architectural Designers, Interior Designers, Industrial Designers, Draftsmen and Office Personnel. Interviews by appointment. PLaza 7-6385, 35 West 53rd Street, New York 19, N. Y.

BUDGET ESTIMATES—specializing in the preparation of budget estimates, quantity surveys and material purchase lists for federal, municipal and private projects. Builders Estimating Service, 140 Nassau Street, N. Y. 38. CO 7-0322.

SCALE MODELS—under your supervision, area New York to Washington. Since 1945 have built models of Philadelphia schools, Lankenau Hospital, Drexel Institute, Youth Study Center, Wilmington Trust and Christ Church, Del., among others. Formerly in Philadelphia, now between Philadelphia and Wilmington. Call Valley Brook 2873. Musselman-Casey Studio, 801 Birney Highway, Aston Mills, Delaware Co., Pa.

ARCHITECTURAL REPRESENTATIVE — offers Syracuse, N. Y. office building address, 24-hour telephone service, typist and forwarding of mail and telephone messages daily for $60.00 per week, plus promotional work if desired at $150.00 per week. Address Room 402, Lafayette Bldg., Syracuse, N. Y.

ARCHITECTURAL ENGINEERING

A Practical Course (HOME STUDY) by Mail Only

Prepares Architects and Draftsmen
for structural portion of

STATE BOARD EXAMINATIONS

For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past twenty years. Our complete Structural Engineering course well known for forty-four years.

Literature without obligation—write TODAY

WILSON ENGINEERING CORPORATION

College House Offices Harvard Square
CAMBRIDGE, MASSACHUSETTS, U. S. A.

Architectural Practice—Revised Edition

by Clinton H. Cowgill and Ben John Small

This comprehensive book covers the professional, business, and legal aspects of architectural practice. Commissions for professional services are traced in minutest detail from the day the client arrives to the last payment for work performed. The social and economic implications of contemporary practice are translated in terms of ready-to-use forms, guides, advice, graphic illustrations, and the like. Accounting procedures, bookkeeping systems, almost every procedural form an architect requires for his practice, agreements of every nature, specifications, insurance and bond requirements are all presented in orderly sequence.

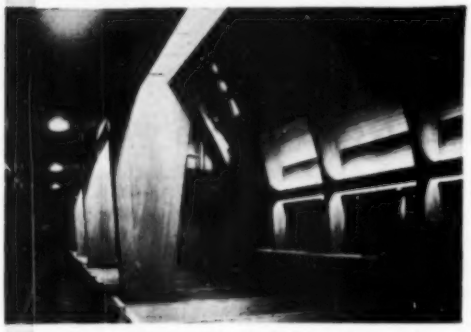
430 pages, 9 x 12, illustrated. $12.00

Send for a copy on approval
REINHOLD PUBLISHING CORPORATION
Dept. X-54, 430 Park Ave. New York 22, N. Y.

Cantilevered beams have concealed connection at ridge and are anchored with angles at the walls.

COULD THIS BE THE ANSWER
To Tomorrow's Low Cost Construction?

Built for only $10 per square foot, the award-winning Mirabeau B. Lamar Junior High School in Laredo, Texas, uses RILCO arches because of their low cost and flexibility of design. Architects: Caudill, Rowlett, Scott & Associates, Bryan, Texas; A. A. Leyendecker, Laredo, Texas, Assoc. Architect.



St. Luke's Lutheran Church in Manhattan, Kansas, utilizes the natural beauty of wood, the great economy and modern design of RILCO arches. Architect: Ramey & Himes, Wichita, Kansas. Contractor: Green Construction Co., Manhattan.

Here is Today's appearance with a hint of Tomorrow's economies. The home of Dr. and Mrs. S. Brownstone, Clear Lake, Iowa, is one of the first houses designed with the structural beauty and economy of RILCO Glued Laminated Wood Members in mind. The plank and beam roof design is cantilevered toward the ridge on 3⅞" x 14" RILCO Beams, spaced 7'-6" o.c. The beams are covered with 2" "V" grooved decking, rigid insulation and a 5-ply built up roof with pitch and gravel. This structural economy brought the contract price of this 2,300 square foot, 3-bedroom house down to $12.75 per square foot.

The church and school building illustrated are only two of a multitude of structures whose unique design and great economies are made possible by RILCO Glued Laminated Wood Members.

These buildings are but the beginning Today's structures with the economy and fresh look of Tomorrow. The post-free interior area presents space flexibility to meet new needs and requirements.

What shape Tomorrow's construction will take, we can't predict. But we are confident that the freedom of design, economy of construction and the warm beauty of natural wood offered in RILCO Glued Laminated Wood Members will be a welcome medium for those who build for Tomorrow.

RILCO experienced engineers will be glad to consult with you about your requirements and give "on the job" cooperation. Write now for free catalog on all types of Rilco Structural Members.

RILCO

works wonders with wood

RILCO LAMINATED PRODUCTS, INC.

2517 FIRST NATIONAL BANK BLDG., ST. PAUL 1, MINN.

"Ah... here's snow melting!"

sign of a progressive business

People who buy are often unfairly referred to as the "fickle public." Nothing is further from the truth . . . for there is nowhere displayed greater constancy than by a really *satisfied* public.

Progressive, successful businesses are increasingly aware of their obligation to perpetuate this public loyalty by making it easy, convenient and comfortable for customers to do business. Hence *snow melting* has taken its place along with air conditioning, good lighting, adequate rest rooms, ample parking facilities and other conveniences that win public esteem.

For sidewalk, driveway, and parking area snow melting and ice removal systems, *steel pipe* is the overwhelming choice. For steel pipe is economical, formable and weldable for grid and coil fabrication, and has been proved in more than 60 years of conventional hot water and steam heating applications. In fact it is the most widely used pipe in the world for plumbing, heating, fire sprinkler systems, air, gas and water lines!

Ask for the new 32 page color booklet, "Steel Pipe Snow Melting and Ice Removal Systems." It is yours, free and without obligation.

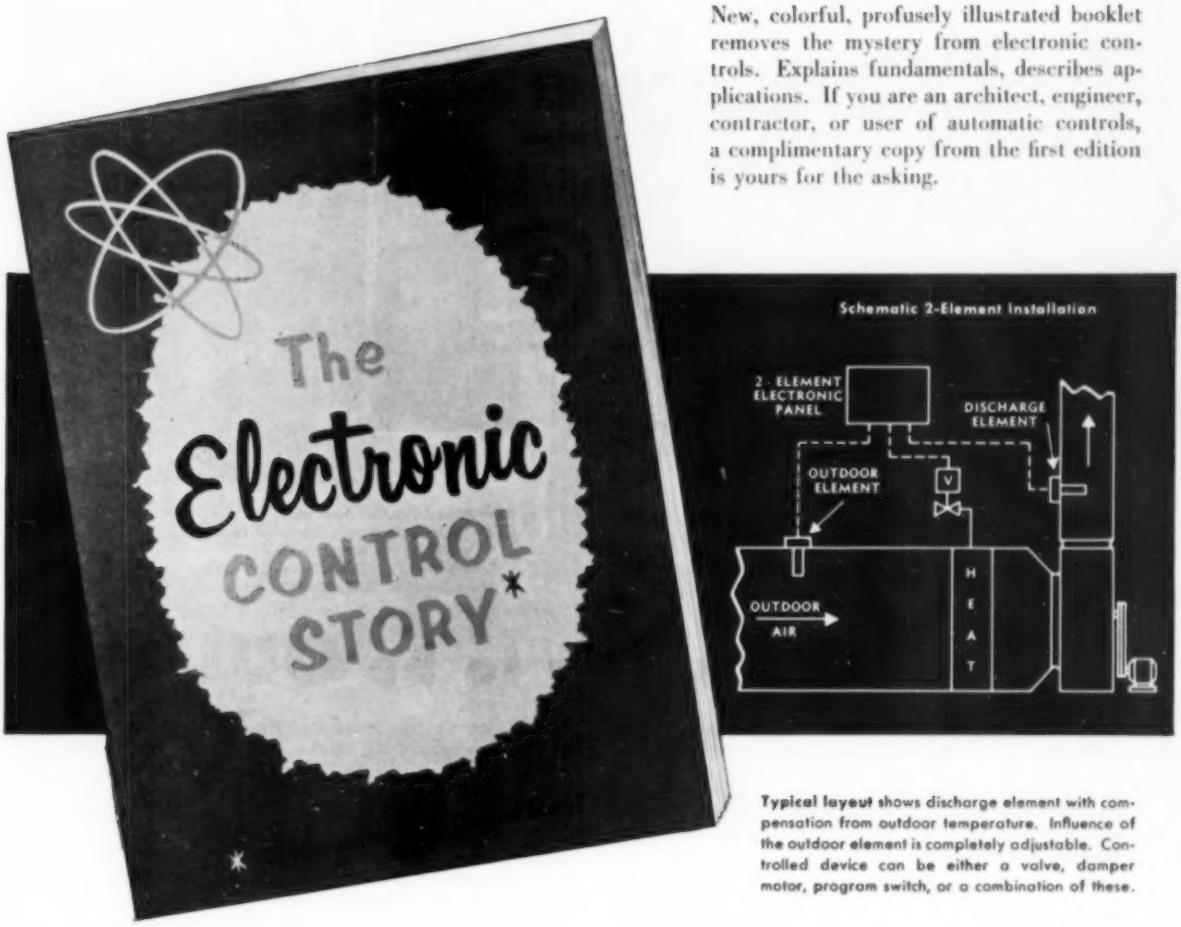
Steel Pipe is First Choice

COMMITTEE ON STEEL PIPE RESEARCH
AMERICAN IRON AND STEEL INSTITUTE
350 Fifth Avenue, New York 1, N.Y.

BARBER COLMAN

New "primer" on electronic controls

New, colorful, profusely illustrated booklet removes the mystery from electronic controls. Explains fundamentals, describes applications. If you are an architect, engineer, contractor, or user of automatic controls, a complimentary copy from the first edition is yours for the asking.



Typical layout shows discharge element with compensation from outdoor temperature. Influence of the outdoor element is completely adjustable. Controlled device can be either a valve, damper motor, program switch, or a combination of these.

Now available from Barber-Colman for automatic control applications

ELECTRONIC CONTROLS OR ELECTRIC CONTROLS OR COMBINATION ELECTRONIC-ELECTRIC CONTROLS	FOR TEMPERATURE CONTROL Single-Element, Averaging Control, Reset Control, Room Discharge Control with or without winter and summer compensation; HUMIDITY CONTROL; PROCESS CONTROL

Early interest in electronics at Barber-Colman Company led to the invention of the radio-controlled garage door in 1926. Process controls for textile machinery followed. Then, during World War II, came electronic devices for aircraft. This extensive *electronic* background, coupled with multi-year experience with *electric* controls, has made possible important contributions to modern control systems for the heating, ventilating, and air conditioning industry.

Today, you have available not only a complete range of reliable instruments for control of temperature, humidity, or industrial processes, but you can benefit from Barber-Colman's vast reservoir of application experience. Phone your nearby Field Office for latest information on electric, electronic, or combination electric-electronic systems.

BARBER-COLMAN COMPANY

Dept. I, 1331 Rock St., ROCKFORD, ILL., U.S.A. Field offices in principal cities

Automatic Controls • Air Distribution Products • Industrial Instruments
Aircraft Controls • Small Motors • Overdoors and Operators • Molded Products • Metal Cutting Tools • Machine Tools • Textile Machinery

Exterior and Interior Views of
Montana State University School of Music, Missoula, Mont.
Architects: Fox & Ballas, Missoula
Contractors: Pew Construction Co., Missoula
Acoustical Consultant: Prof. Knudsen, U.C.L.A.

School learns how to be QUIET

Most troublesome enemy of music study and enjoyment . . . is *noise*. Noise that might come from within the very area where music is the subject. Alien sounds originating in corridor and classroom, a cacophony that not only retards concentration and appreciation of harmony, melody, and rhythm . . . but actually distorts and destroys the beauty of music itself.

Low-Cost Answer

Fortunately, Acousti-Celotex Sound Conditioning has brought the economical solution to scores of music schools and colleges. Take, for instance, the beautiful Montana State University School of Music at Missoula. Here, under the supervision and close cooperation of Prof. Knudsen, the construction of the building and the nature of its study-subject dictated these Acousti-Celotex ceiling types: In classrooms, Acousti-Celotex Random Pattern Cane Fiber Tile (screwed to Acousti-Lockboard), a material as attractive as it is easily maintained. In corridors, Acousti-Celotex Random Pattern Tile or Celotone® on Acousti-Line Suspension System. And walls of practice rooms and secondary corridors were treated with especially-suited Celotex Perforated Panel Board backed up with a sound absorbing blanket of Celotex Rock Wool.

Versatility Unlimited

Other unusually satisfactory installations, besides the completely sound-conditioned School of Music, have been made on the Montana State University campus. Here is ample proof that no matter what the project may be . . . whatever the problem of acoustics, building code or design itself—your local Acousti-Celotex distributor stands ready to assist you.

- **He is a member of the world's most experienced acoustical organization with hundreds of thousands of expert installations to its credit.**
- **His professional training and experience embrace acoustical installations of every type, size, and application technique.**
- **He has a complete line of specialized acoustical products to meet every job requirement, and can make recommendations to fill exact architect specifications.**

TRADE MARK

ACOUSTI-CELOTEX

REGISTERED U. S. PAT. OFF.

Sound Conditioning

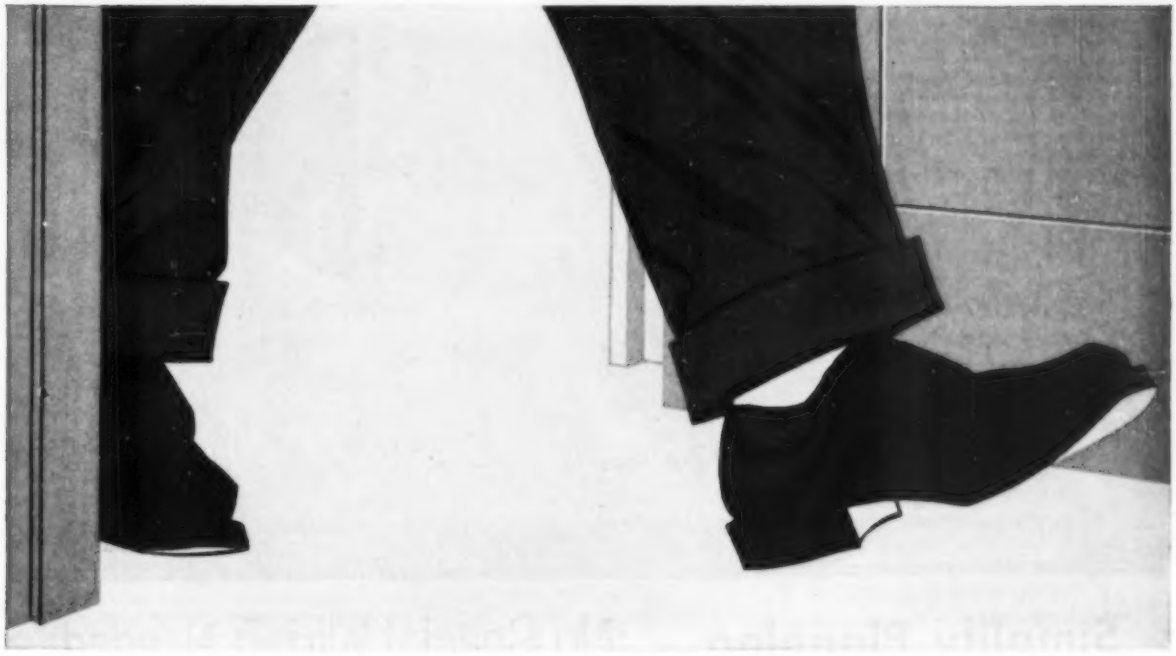
FOR FULL DETAILS on the complete line of Acousti-Celotex products, please write to The Celotex Corporation, Dept. C-94, 120 S. LaSalle St., Chicago 3, Ill.

Products for Every Sound Conditioning Problem—The Celotex Corporation, 120 S. La Salle St., Chicago 3, Illinois • In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec.

Fenestra 50 YEARS

"A salute to those who made it possible" *

How to save money coming and going



Count the doors in your building. Like to save up to $100 apiece on each door you put in your *next* building? *Compare* the installed cost of Fenestra* Hollow Metal Door-Frame-Hardware Units with the cost of other hollow metal doors!

Here are three sound reasons why Fenestra Door Units can bring you such important savings:

1. They cost less to buy because you get production line economy—not custom job costs. They are mass produced on special jigs that avoid expensive time and labor.

2. They come to your job complete with pre-fitted frame, door and hardware specifically made for each other. You save time because there's no need for planning, ordering and assembling special elements.

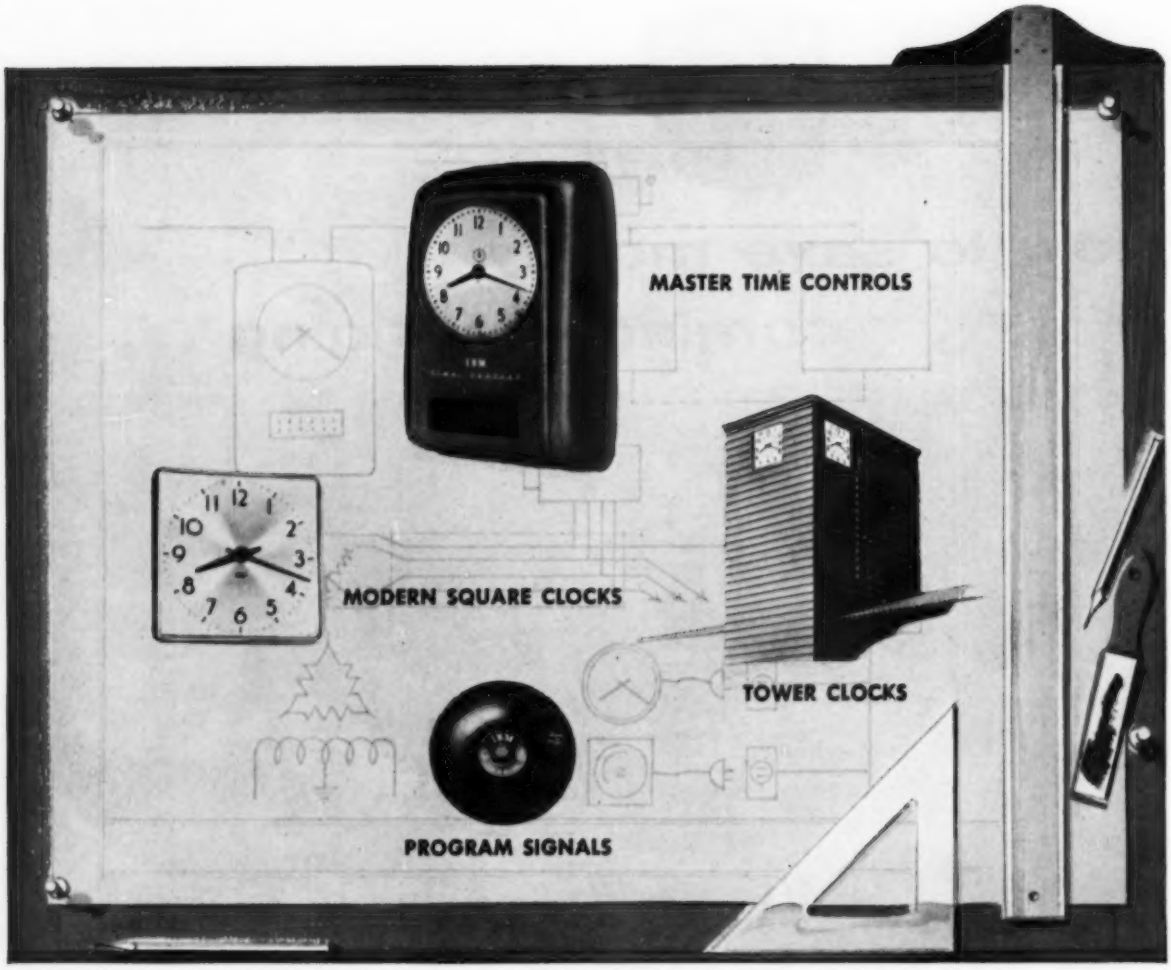
3. You save on installation costs because these complete units need no cutting, no fitting, no mortising or tapping. Each door is installed and in use in minutes.

And you save year after year on maintenance because Fenestra Hollow Metal Doors can't warp, swell, stick or splinter. They always open easily . . . smoothly. They close quietly because inside surfaces are covered with sound-deadening material.

For strong, solid quality at low cost, check on Fenestra Doors. There's a door for every purpose in the Fenestra line: Entrance Doors, Flush or Regular Interior Doors with glass or metal panels. Doors with the Underwriters' B Label. For pictures and details, write the Detroit Steel Products Company, Department PA-9, 3409 Griffin Street, Detroit 11, Michigan. *

* Your need for lower building costs encouraged us to develop a quality door unit that would save initial cost and installation cost—Fenestra Hollow Metal Door-Frame-Hardware Units . . . a great advancement in building products.

Fenestra | DOOR • FRAME • HARDWARE UNITS



Simplify Planning . . . No Special Wiring Needed

• **IBM Electronic Time and Program Signaling Systems** eliminate need for special clock and signal wiring . . . synchronize clocks, recorders and audible signals . . . control utilities . . . all automatically.

• **Easy, economical to install** . . . clocks and signals connect with regular AC lighting lines . . . are supervised electronically.

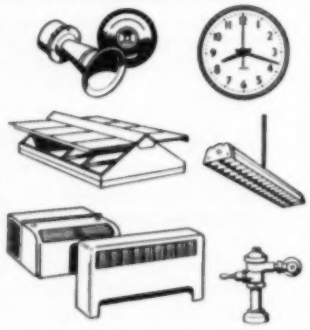
• **Self-regulating on 12-hour basis** . . . master control automatically checks—and corrects as much as 12 hours, if necessary—all clocks twice daily. Automatic self-regulation assures coordination of all time units.

• **Can be altered with little cost or effort** . . . system may be expanded, units relocated, without expense of additional controls or special wiring.

Control Utilities Automatically

IBM Electronic Time and Program Signaling Systems can save costs, conserve natural resources by automatically scheduling utility functions . . .

sound audible signals • open and close ventilators • turn heating and air conditioning systems on and off • switch light circuits on and off • open and close water flow valves.



You're RIGHT ON TIME . . . with

IBM Time EQUIPMENT

INTERNATIONAL BUSINESS MACHINES • 590 Madison Ave., New York 22, N. Y.

Branch Offices located in principal cities

Fenestra 50 YEARS

"A salute to those who made it possible" *

This is the Fenestra Acoustical-Structural Ceiling in Upton School, Worcester, Mass.
Architect: Perley F. Gilbert, Lowell, Mass.
Contractor: Wexler Construction Co., Brookline, Mass.

Doesn't this ceiling make sense?

Here, acoustical treatment is an *integral part* of the structural ceiling. It's built right in. No acoustical material has to be pasted on the ceiling surface. You pay no bills for special trades or extra labor. Maintenance washing or painting won't affect the acoustical efficiency. And it is *non-combustible* construction.

Fenestra* Acoustical-Structural Building Panels make so much sense that it's surprising no one thought of the idea long ago. In fact, they are the *only* material that can give you really practical acoustical treatment in a classroom or gymnasium. These strong, long-span panels form a beautifully finished structural ceiling, non-combustible acoustical treatment and a joist-system support for finished roofing!

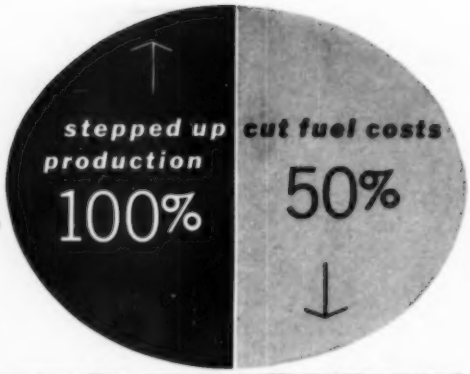
A *Boston Globe* story on Upton School states: "The largest single saving in design was effected by use of steel panels which form in one unit the roof and the ceiling. These units span the width of each classroom in easily handled sections which are welded together on the job. Looked at in cross section, the panels are corrugated and filled with acoustical soundproofing material."

For full details on Fenestra Acoustical Building Panels, call your Fenestra Representative (listed in the yellow pages of your phone book) or write Detroit Steel Products Company, Dept. PA-9, 3409 Griffin Street, Detroit 11, Michigan. *Trademark

* Your need for a maintenance-free, noncombustible, built-in acoustical treatment encouraged us to develop Fenestra Acoustical-Structural Building Panels —a great advancement in building products.

Fenestra | METAL BUILDING PANELS

How a KEWANEE Reserve Plus Rated boiler...



Duracrete Block Company, Inc., Hooksett, New Hampshire

■ Anyone would find it difficult to prove to Dante V. Donati, Manchester, New Hampshire, that Kewanee Reserve Plus Rated Boilers do not pay dividends. That's because he discovered it the hard way. First, he bought an ordinary boiler for his plant at the Duracrete Block Company. He operated it one year, and then . . . but let him tell the story—

"We installed an ordinary boiler and found it to be inadequate. We then purchased a Kewanee Unit. Our production was stepped up more than 100% . . . with fuel costs cut in half. Maintenance cost is extremely low. The quality of our product has improved because of lower moisture content due to ample steam for processing."

Judging from Mr. Donati's experience it just makes sense that it's money in the bank to follow the Kewanee Reserve Plus Rating Plan in selecting a boiler. So when you choose a boiler, know these important facts:

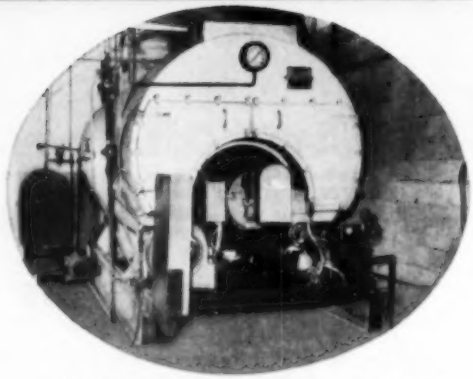
1—*Boiler rating must be based on nominal capacity, not maximum capacity;*

2—*Boilers must have sufficient built-in reserve to meet changing demands;*

3—*Boilers must have sufficient capacity to operate at "cruising speed," not maximum speed at all times;*

4—*Like examples must be considered in comparing boilers. Don't be confused by vague technical claims.*

Choose Kewanee and cut fuel costs—lower maintenance—reduce breakdowns—get longer boiler life.



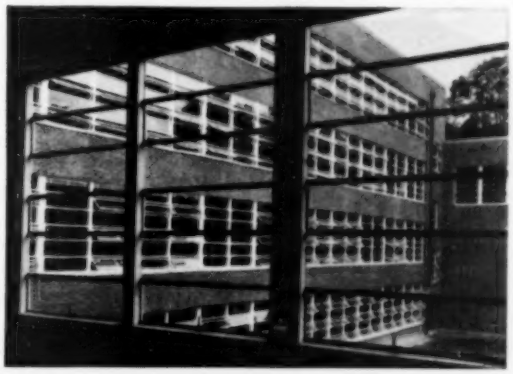
Here is No. 85-60 Kewanee Oil Fired Boiler-Burner Unit installed at the Duracrete Block Company.

KEWANEE BOILERS
KEWANEE-ROSS CORPORATION, Kewanee, Illinois
Division of American Radiator & Standard Sanitary Corporation
Serving home and industry · American-Standard · American Blower
Church Seats & Wall Tile · Detroit Controls · Kewanee Boilers
Ross Exchangers · Sunbeam Air Conditioners
YOU can depend on KEWANEE engineering

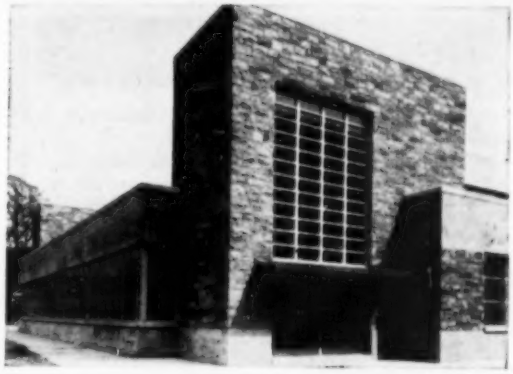
Fenestra 50 YEARS

"A salute to those who made it possible" *

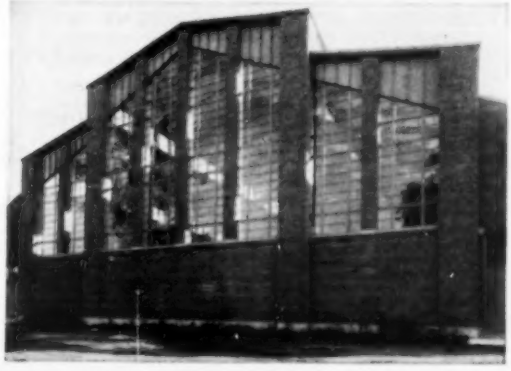
Why so many of America's finest schools have



Fenestra Intermediate Steel Awning Windows in Clemson College Chemistry Building, Clemson, South Carolina. Architects: Hopkins & Baker of Anderson, S. C. Contractor: Industrial Builders, Inc., Anderson, S. C.



Fenestra Intermediate Steel Awning and Projected Windows in Lower Merrion Schools, Ardmore, Pa. Note how the high bank of windows in the entrance wall lights the stairway. Architects: Savery, Scheetz & Gilmour, Philadelphia. Contractor: Frank V. Warren, Philadelphia.



Fenestra Intermediate Steel Projected Windows in the Athletic Field House at Evanston High School, Evanston, Ill. Architects: Perkins & Will, Chicago. Contractor: Peter Hamlin Construction Co., Chicago.

Fenestra Windows—

Fenestra* Intermediate Steel Windows are selected by architects and administrators of many of the finest and best-looking schools in America. The reason is not appearance alone: because of their quality construction, Fenestra Windows do an incomparable job.

They provide *more and better daylight.* Fenestra Windows are engineered and precision built to be rigid and rugged without excess bulk. You get *more glass area* and *clear-vision view* per window opening.

You get *better ventilation,* too. Tilt-in vents bring in abundant fresh air, without drafts . . . shed rain outside. Other vents project-out to form weather-protective canopies over their openings.

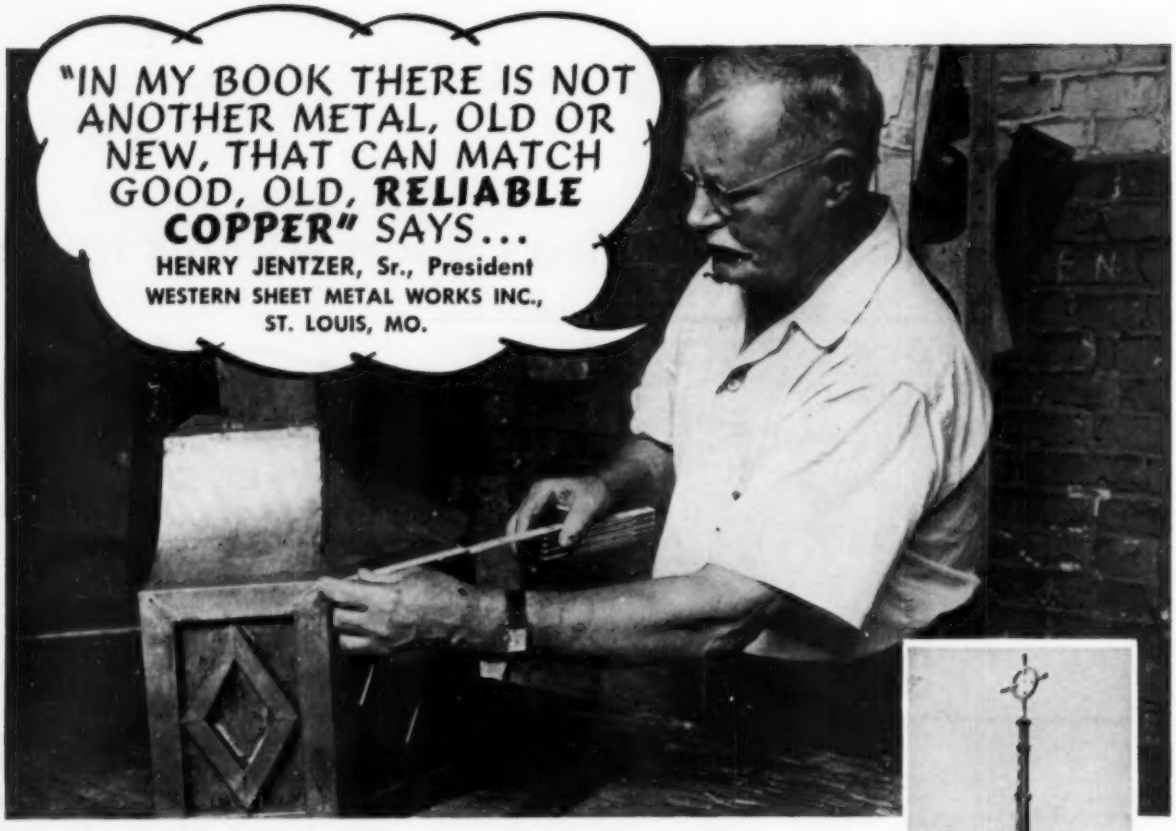
Screening and cleaning are safely, economically done *from the inside* . . . no ladders or scaffolds . . . no expensive labor.

You *save on maintenance.* Steel-strong window members and sturdy hardware assure years of trouble-free service. And Fenestra Windows are available Super Hot-Dip Galvanized . . . save thousands of dollars in painting costs every few years.

Write for further information. Or call your Fenestra Representative (listed in the yellow pages of your phone book). Ask for our authoritative booklet on *Better Classroom Daylighting.* Detroit Steel Products Company, Dept. PA-9, 3409 Griffin Street, Detroit 11, Michigan. *®

* Your need for windows that would give better school daylighting, protected ventilation and lower maintenance costs encouraged us to develop today's Fenestra Intermediate Steel Windows . . . a great advancement.

Fenestra | INTERMEDIATE STEEL WINDOWS


"IN MY BOOK THERE IS NOT ANOTHER METAL, OLD OR NEW, THAT CAN MATCH GOOD, OLD, RELIABLE COPPER" SAYS...
HENRY JENTZER, Sr., President
WESTERN SHEET METAL WORKS INC.,
ST. LOUIS, MO.

"Ive been in the sheet metal business for 60 years . . . was an apprentice at 12 years of age. During that time I've worked with every kind of metal and alloy. Some have one or two good features, others have other good points, but there's not one of them that has *all* of the outstanding features of copper.

"Maybe I'm old-fashioned but I like to work with materials that have proved themselves. That doesn't say that I don't test new materials when they come along . . . I do. But I don't use a new material just because it's new. It has to prove itself. I guess you might say 'I'm from Missouri.' Well, I am.

"And when it comes to working with copper any good sheet metal man will tell you it's his favorite metal. You can form copper into just about any shape or design the architects can think of, and it solders perfectly without a lot of fussing around. Then, too, when you install a copper job you don't have to worry about its rusting. I guess the best proof of what I think of copper is the all-copper roof I put on my new home."

Mr. Jentzer's enthusiasm for copper in building is typical of what sheet metal men think of this "ageless" metal . . . there is not another single metal that has all of the desirable construction characteristics of copper.

So why not take a look at the jobs you are now working on and "imagine things with copper."

Be safe, be sure, write "Revere Copper" into your specs. A Revere Distributor near you stocks Revere Sheet, Strip or Roll Copper for flashing and roofing. Ask him about Revere Keystone Thru-Wall Flashing* and the new Revere-Keystone 2-Piece Cap Flashing.** And, if you have technical problems, he will put you in touch with Revere's Technical Advisory Service.

*Patented **Patent Pending

(Right)

ONE EXAMPLE of the intricate designs that can be fashioned due to the workability of Revere Copper is this spire made by WESTERN SHEET METAL WORKS, INC., for the House of Philosophy, Society of Jesus, Missouri Province. *Architect:* LEO A. DALY COMPANY, St. Louis, Mo., and Omaha, Neb.

(Below)

PROOF THAT MR. JENTZER practices what he preaches is this all-copper roof of Revere 16 oz. Sheet Copper, installed on his new home. Valleys, ridges, gutters and downspouts also are of Revere Copper.

REVERE COPPER *for all jobs shown furnished through Revere Distributor,* HUBBELL METALS COMPANY, *St. Louis.*

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.

• • •

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.
Sales Offices in Principal Cities, Distributors Everywhere.

SEE "MEET THE PRESS" ON NBC TELEVISION, SUNDAYS

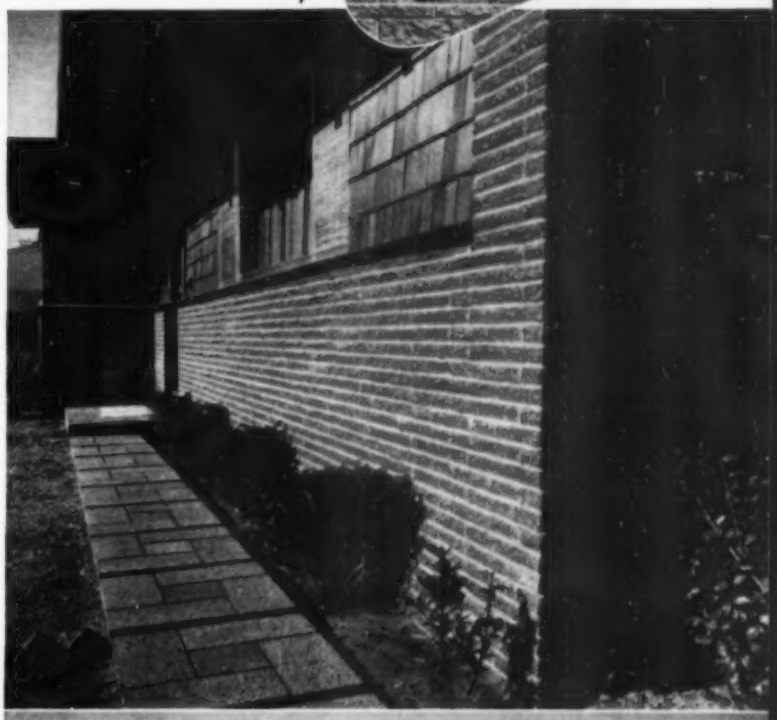
To be sure...build with

BES-STONE

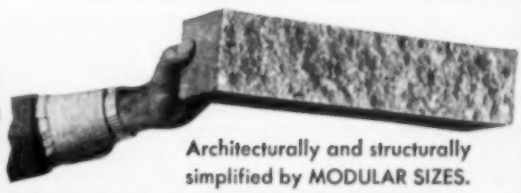
...the Split Block with Character!

Its "QUARRIED STONE" CHARACTER Combines BEAUTY and PERMANENCE at Low Cost!

To be sure, it pays to plan and build with BES-STONE Split Block. Pleasing, permanent colors . . . distinctive sizes for varieties of modular Ashler patterns satisfy the creative aims of architects, builders and owners. As veneer or solid masonry, they are RIGHT for homes and many other structures . . . commercial, public, industrial, institutional buildings . . . exteriors and interiors! You'll think of many more uses in terms of garden walls, planting-areas, fireplaces, barbecues. BES-STONE is fire-safe and storm-safe . . . makes a very attractive wall . . . is immune to vermin or rodent attack. And it's economical . . . requires no maintenance.



BES-STONE is the product of the BES-STONE Block Splitter. Contact your nearby Products Plant for literature, or write to the Besser Mfg. Co., Box 177, Alpena, Mich.



Architecturally and structurally simplified by MODULAR SIZES.

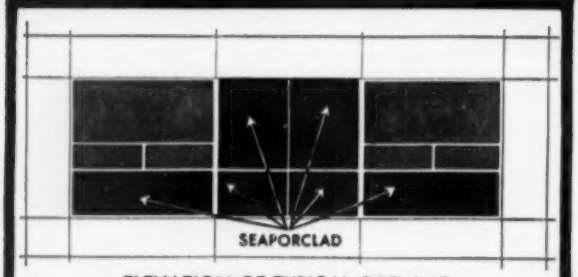
BESSER
50th Anniversary
1904-1954

..a Half Century of Concrete Masonry Progress!

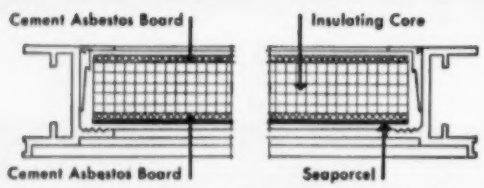
SEAPORCLAD BY SEAPORCEL

as modern as the new Hartford Statler Hotel

William B. Tabler, Architect
Geo. A. Fuller, Contractor
Aluminum windows by Universal Corporation, Dallas, Texas
photograph by Louis Checkman from model by Theodore Conrad



ELEVATION OF TYPICAL OPENING



SECTION THRU SEAPORCLAD WALL PANEL

455 ROOM HARTFORD STATLER HOTEL, Corners of Pearl, Ford Sts., Hartford, Conn.

THE USE OF versatile Seaporclad building panels is finding increasing architectural recognition. A lamination of Seaporcel porcelain with thermal and sound insulating core, Seaporclad has been chosen for the 20,000 square feet of colorful panels for the Hartford Statler, the newest addition to the Statler Corporation's national chain of quality hotels.

MEASURING ONLY 1⅜ inches in thickness, Seaporclad curtain wall panels for the Statler Hotel meet the most rigid requirements of the Hartford Building Department codes. Seaporclad provides a complete exterior and interior wall . . . of sandwich construction . . . weather, fire and corrosion-resistant . . . with maintenance costs at the vanishing point.

THE STATLER HOTEL panel consists of nationally recognized Seaporcel porcelain, laminated to a cement asbestos board and an insulating core to form a single sandwich unit.

SEAPORCLAD FACADES supplant heavy masonry walls, save space and weight, with resultant reductions in structural steel and foundation requirements. It is also easily and economically installed. Seaporclad is fabricated for a variety of uses in conventional sizes and in any thickness or shape . . . and is available in the fullest scope of textures and colors.

There are a few areas in which Seaporcel Metals, Inc., is not represented. Inquiries from interested agents are invited.

For Some Job . . . Somewhere . . . You Can Use SEAPORCEL*

Let Seaporclad's successful applications be your guide to future planning . . . write for brochure #49

SEE OUR CATALOG IN SWEET'S

Seaporcel

SEAPORCEL METALS, INC.
2800 Borden Avenue
Long Island City 1, New York

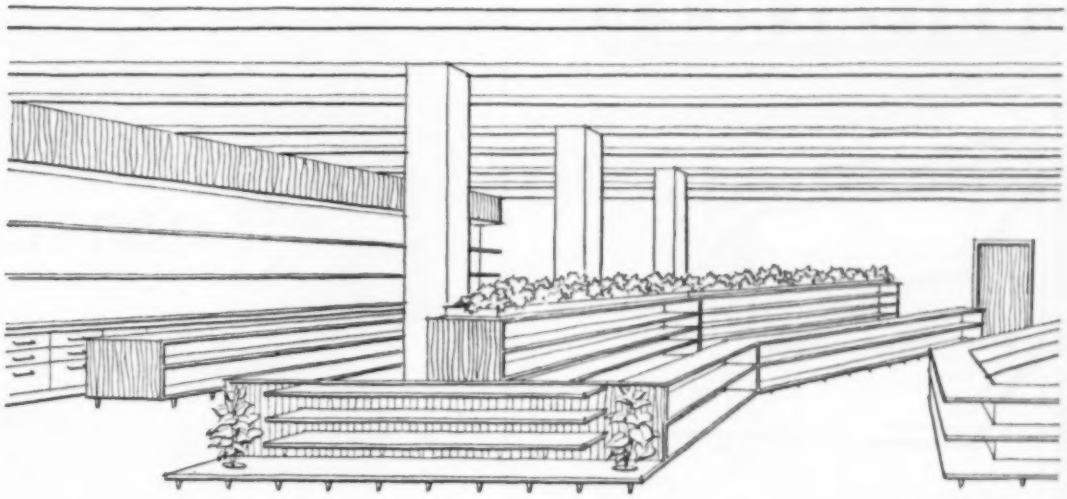
SEAPORCEL PACIFIC, INC.
1461 Canal Avenue
Long Beach 13, California

ARCHITECTURAL PORCELAIN

Member: Porcelain Enamel Institute A. F. OF L. METAL FABRICATING & ENAMELING PLANTS

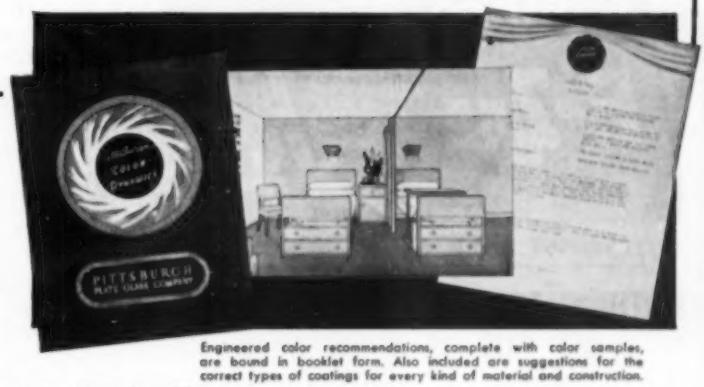
*Reg. U.S. Pat. Off.

COMPLETE ENGINEERING & ERECTION DEPARTMENTS



You Can Get a Complete

Engineered Color Study for Your Plans–FREE!



Engineered color recommendations, complete with color samples, are bound in booklet form. Also included are suggestions for the correct types of coatings for every kind of material and construction.

YOU can often make your plans more acceptable to your clients by including a detailed color program.

● **Almost everyone** who owns or operates an industrial, commercial or service enterprise recognizes the importance of the influence of color upon people. That's why such a detailed program of color recommendations often can be very helpful.

● **Why not let us submit** *engineered* color recommendations to go with your plans? These recommendations are based upon the principles of Pittsburgh's system of COLOR DYNAMICS®. This method of painting has successfully demonstrated its ability to improve productive efficiency, morale and well-being in many fields.

● **We'll be glad** to make such a detailed study for you without cost or obligation. Simply call your nearest Pittsburgh Plate Glass Company branch and arrange to have one of our color consultants see you at your convenience. Or mail coupon at right.

For Additional information on COLOR DYNAMICS see Sweet's Architectural File, Section 14/PL

MAIL THIS COUPON TODAY

Pittsburgh Plate Glass Company
Paint Division, Dept. PA-94
Pittsburgh 22, Pa.

Gentlemen:

☐ Please have your representative provide us with further information about Pittsburgh's free COLOR DYNAMICS engineering service for architects.

☐ Please send free copy of your booklet on COLOR DYNAMICS for ____industry; ____hospitals; ____schools; ____commercial buildings.

NAME_____

ADDRESS_____

CITY_____ COUNTY_____ STATE_____

PITTSBURGH PAINTS

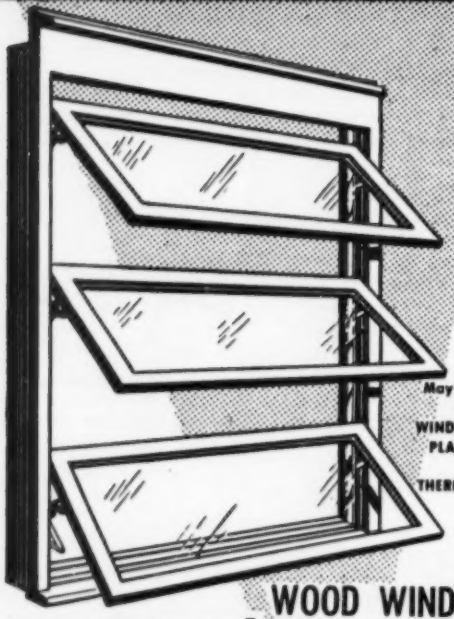
PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

WINDOW WOODCO PRODUCTS

Specify with CONFIDENCE!



Easy to Lock! WOOD WINDOWS WOMEN WANT

WOODCO E-ZEE Loc

WOOD AWNING WINDOWS

NOTHING TO ADJUST — NOTHING TO GET OUT OF ADJUSTMENT

Factory-Assembled of Kiln-Dried Ponderosa Pine, Toxic-and-Water Repellent Treated

Finest Awning Window Made

Backed by WOODCO's 35 Years' Experience

WRITE or CALL FOR COMPLETE INFORMATION
Permanently Displayed at
WOODCO CORPORATION
A DIVISION OF GENERAL WOODCRAFT CO., Inc. — NORTH BERGEN, N. J.
3590 N. W. 71st STREET MIAMI 47, FLORIDA
Phones: 64-3219, 64-3417

There Is No Substitute for EXPERIENCE

Solve ANY climate problem with this valuable new book!

CLIMATE and ARCHITECTURE

by Jeffrey Ellis Aronin

HERE is the very first book ever published to show in complete detail the effects of climate upon architectural design! It gives the architect, designer and builder an indispensable working knowledge of how to plan for any given set of climatic conditions. The influences of the sun, temperature, wind, precipitation, lightning and humidity on architecture. Each of these chapters reviews the physics of these influences, the beneficial and disadvantageous effects under given conditions, their control through the orientation of buildings, site and town planning and the use of such devices as brise-soleils, trees, windbreaks, snow fences, etc.

All the latest climatological information and statistics that could possible bear on the field of architectural design have been included.

Another valuable feature of the book is its unusually complete bibliography which lists and reviews briefly almost 300 related books and articles.

Because of its refreshingly new approach to a vitally important design factor, Aronin's book will have a wide appeal among architects, builders and town planners everywhere. Real estate investors, students, and present and prospective home owners, too, will find the book of exceptional value in analyzing the effects of climate on architectural design, and should always have it handy on their home or office bookshelves.

350 pages, profusely illustrated, $12.50

Mail FREE-Examination Coupon TODAY!
REINHOLD PUBLISHING CORPORATION, DEPT. M-718
430 Park Avenue, New York 22, N. Y.

Please send me a first-press copy of Aronin's CLIMATE AND ARCHITECTURE for 10 days' examination on approval. In 10 days, I will send you $12.50 plus postage and packing, or return book and owe nothing.

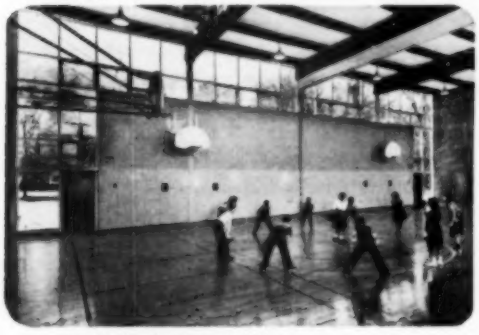
Name .....

Address .....

City .....Zone....State.....

☐ SAVE POSTAGE: Check here if you enclose $12.50; we pay all shipping charges. Same return and refund privilege.

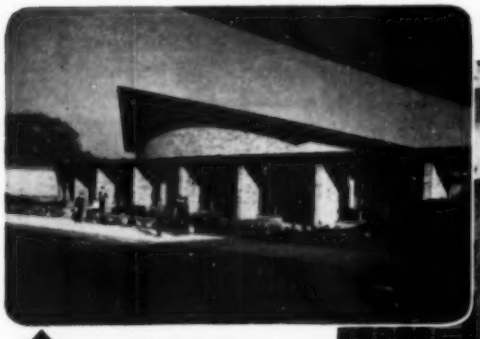
Architects—Perkins and Will
Westmere School, Guilderland, N. Y.
Beauty and comfort underfoot will not diminish with years of constant school traffic. Under the supervision of the Hillyard Maintaineer, asphalt tile corridor was treated with Hillyard HIL-TEX, and finished with slip-resistant SUPER HIL-BRITE WAX.



Architects—Perkins and Will
Paige School, Schenectady, N. Y.
Hillyard TROPHY SEAL and FINISH has been specified for all gym and recreational floors—for a lighter, smoother surface with great slip-resistance and controlled light reflectivity. Hillyard Maintaineer in N. Y. territory acted as Job Captain on gym finishing without charge.

Famous
Architects FEATURE
HILLYARD FLOOR TREATMENTS
throughout *New Educational Installations*

To the architect's credit are the designs for outstanding new school buildings of every kind . . . and for the beauty of their floors, busy specifiers find Hillyard Products consistently dependable, easy to use, capable of lasting service . . . and the "job captain" assistance of a technically trained Hillyard Maintaineer is always available on request.



Architects—Perkins and Will
Heathcote Elementary School
Scarsdale, N. Y.

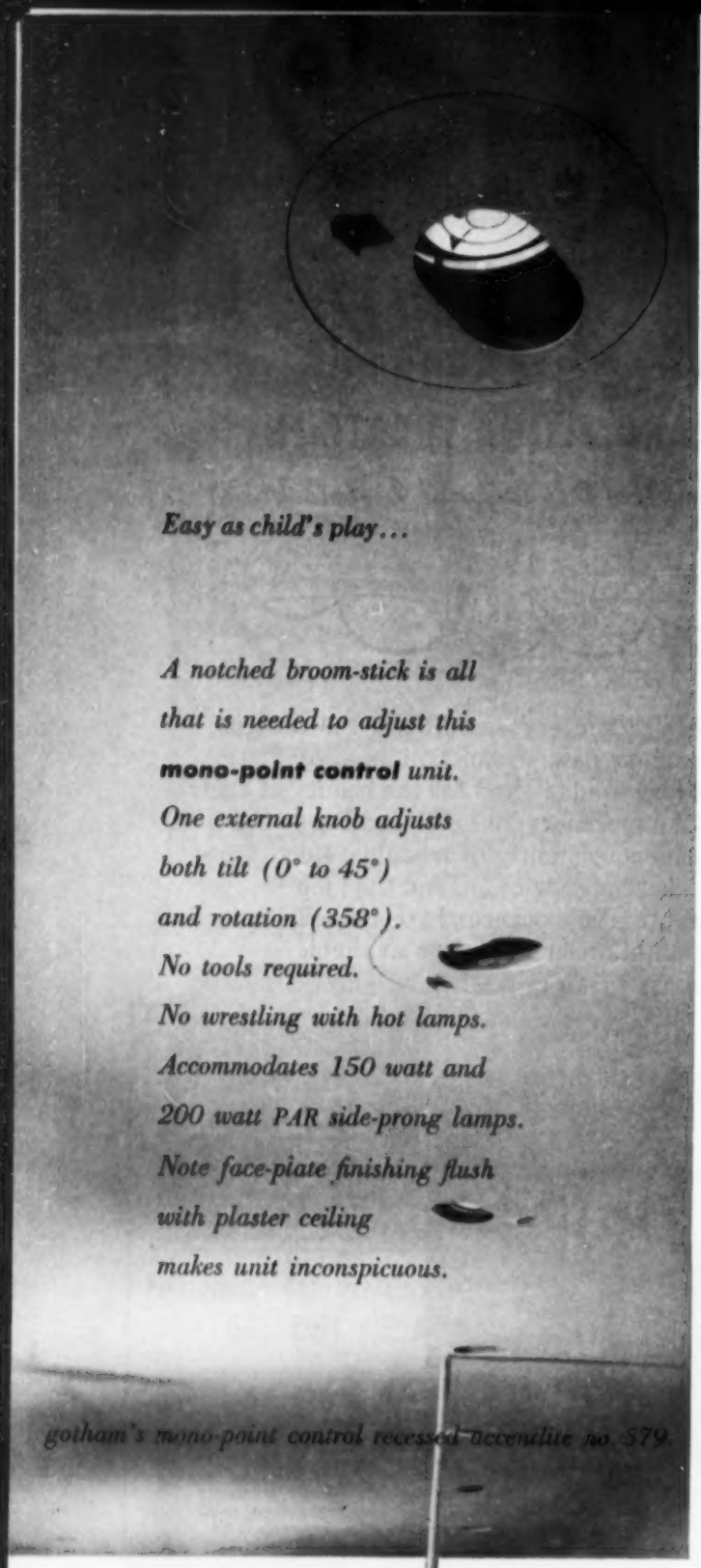
Architects—Perkins and Will
Altamont Elementary School,
Altamont, N. Y.
Classroom floors are attractive and color bright. The selection of Hillyard products approved safe for resilient floors assures natural color beauty. Maintenance, important to school budgets, is economical.

MAKE IT A HABIT

To contact the Hillyard Maintaineer.

You can depend on him for reliable product information. He is technically trained, an accredited representative of a company with almost 50 years' experience as manufacturer of quality floor treatments. He will act as your Job Captain on floor treating, without charge. Write for the name of the Hillyard Maintaineer near you.

ST. JOSEPH, MO.
San Jose, Calif. • Passaic, N. J.



Easy as child's play...

A notched broom-stick is all that is needed to adjust this **mono-point control** *unit. One external knob adjusts both tilt (0° to 45°) and rotation (358°). No tools required. No wrestling with hot lamps. Accommodates 150 watt and 200 watt PAR side-prong lamps. Note face-plate finishing flush with plaster ceiling makes unit inconspicuous.*

gotham's mono-point control recessed accenulite no. 579

for data:

gotham lighting corporation

37-01 thirty-first street

long island city

the A.I.A. warns

architects and building owners concerning the purchase of materials finished outside the United States. Experience has proven that attempts to achieve extraordinary economies by having marble finished abroad frequently result in added cost and insurmountable problems.

A new marble specification, recently released by the M.I.A., reads as follows:

> *"All imported marble shall be selected from available stocks in this country, or, if imported, the marble shall be delivered in this country in rough form. All finishing, including selection and jointing to size, polishing, cutting and carving, shall be executed in the United States."*

The Marble Institute of America has issued a bulletin incorporating the warning of The A.I.A. This is available without cost.

MARBLE (MIA) INSTITUTE OF AMERICA, INC.
108 FORSTER AVENUE, MOUNT VERNON, N.Y.

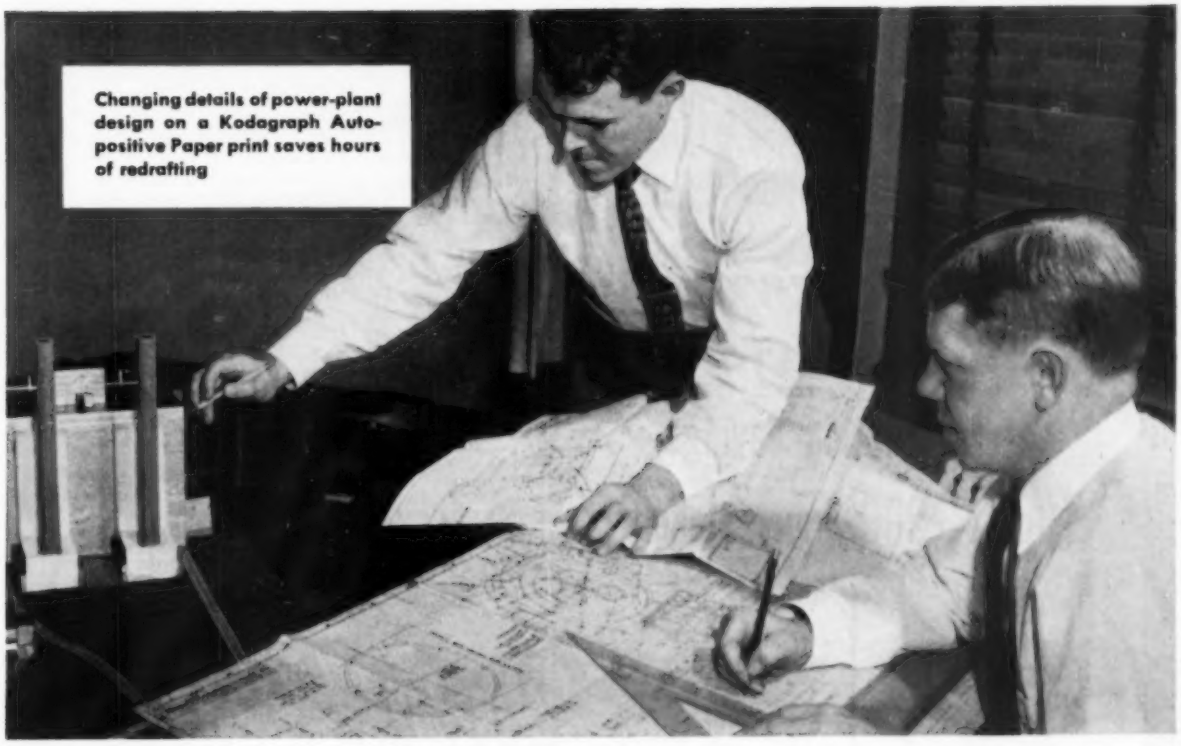
Give your store plans WORKING WALLS with

PEG-BOARD
PANELS and METAL HANGERS

WRITE for complete details, samples and prices.

"PEG-BOARD" is the Reg. T.M. of B. B. Butler Mfg. Co., Inc., used to identify its products.

Copyright 1954 **B. B. BUTLER MFG. CO., INC.** 3151 Randolph St., Bellwood, Ill.



Changing details of power-plant design on a Kodagraph Autopositive Paper print saves hours of redrafting

Toledo Edison Company reports on its use of Autopositive—

"One saving after another since 1947"

Shortly after Kodagraph Autopositive Paper was introduced, the Toledo Edison Company, Toledo, Ohio, began exploring its possibilities for engineering drawing reproduction.

Here was a revolutionary photographic intermediate paper which produced positives directly from positives—no negative step. It could be exposed in standard print-making equipment . . . processed in standard photographic solutions. *Entire operation in ordinary room light, too.* Jobs which had been difficult and costly became easy and economical—Kodagraph Autopositive Paper costs only a few cents a square foot. Some typical savings at Toledo Edison *which you can duplicate* are listed here.

☐ **Old prints and intermediates reclaimed.** No time lost retracing. Autopositive Paper strengthens weak line detail, cleans up backgrounds. Toledo Edison now can get intermediates which have dense photographic black lines on an evenly translucent paper base. *Original quality or better!*

☐ **Opaque originals no problem.** Many of Toledo Edison's forms, charts, operating maps, etc., are on opaque stock—some two-sided. Data is added to these in pencil or by typewriter. Then Autopositive reproductions are made and used to produce the direct-process prints needed for distribution. The 1954 Annual Budget, for example, was reproduced in this manner. *Autopositive saves time and dollars for all departments.*

☐ **Print-making simplified.** Toledo Edison runs Autopositive intermediates at uniform, practical speeds in its direct-process machine . . . gets sharp prints time after time. *Autopositive lines do not smear, smudge, or lose density.*

☐ **Drafting shortcuts.** An Autopositive print is made of a drawing which has to be altered. The obsolete detail is eradicated or scissored out, and another Autopositive is made. New design is then added, and the job is completed without redrafting.

☐ **Photo-lasting file copies.** Toledo Edison also finds that Autopositive intermediates will not turn yellow or become brittle . . . are ready to produce sharp, legible prints whenever needed.

Kodagraph Autopositive Paper

"THE BIG NEW PLUS" in architectural drawing reproduction

Shows all the ways you can save with Kodagraph Autopositive Paper.

MAIL COUPON FOR FREE BOOKLET

EASTMAN KODAK COMPANY 94
Industrial Photographic Division, Rochester 4, N. Y.
Gentlemen: Please send me a copy of "Modern Drawing and Document Reproduction."

Name_____ Position_____
Company_____ Street_____
City_____ Zone____ State_____

Kodak

Now you can enjoy all the Wonderful Benefits of *Combustioneer* MODULATING STOKERS at Installation Savings Up To $500.00 per Stoker

• The reason for the savings is quite simple! The famous Combustioneer "Type L" Gear Drive is "made to order" for Modulating Controls. Its adaptation to Modulating Controls is much less costly . . . savings up to $500 per stoker are not uncommon.

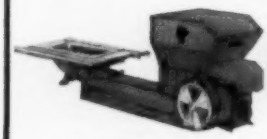
Furthermore, with Combustioneer's Modulating Controls you continue to save important money every day. The controls level off peaks and valleys in coal feeding, prevent over-firing and waste of coal! They keep more heat in the boiler, reduce stack losses, use less fuel during "off" periods, save operator's time and assure smoke-free stacks. They accomplish all this by *automatically* feeding coal and air to the fire at *variable* rates to meet exact load requirements.

Combustioneer Modulating Stokers range in capacity from 200 to 1000 lbs. per hour. Their rugged construction assures long life in hard service. They are available in both Hopper and Bin-Feed Models.

Write today for Architect's Heating Manual containing complete Combustioneer data and specifications.

Combustioneer Division
The Steel Products Engineering Company
1374 W. Columbia St., Springfield, Ohio

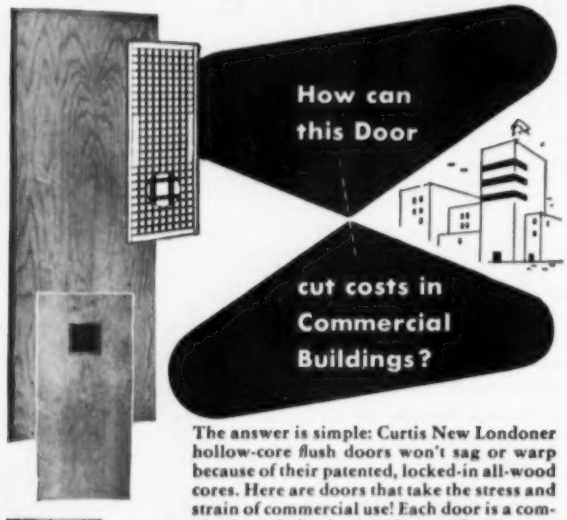
Bin-Feed Model No. 20



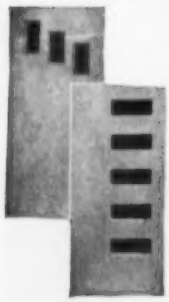
Hopper Model No. 50

Combustioneer

Gas Burners • High and Low Pressure Oil Burners
Oil Furnaces • Stokers • Humidifiers



The answer is simple: Curtis New Londoner hollow-core flush doors won't sag or warp because of their patented, locked-in all-wood cores. Here are doors that take the stress and strain of commercial use! Each door is a completely sealed unit—nothing to "float" or get out of place. Face panels in native woods come beautifully book-matched, or in other pleasing variations. For lasting owner satisfaction, use Curtis New Londoner doors. Also made in solid core construction—all sizes. Complete facts are yours for the asking.



CURTIS NEW LONDONER
HOLLOW-CORE
FLUSH DOORS
CURTIS COMPANIES SERVICE BUREAU
Clinton, Iowa

FOR YOUR PROTECTION

insist on

Quality Approved

ALUMINUM

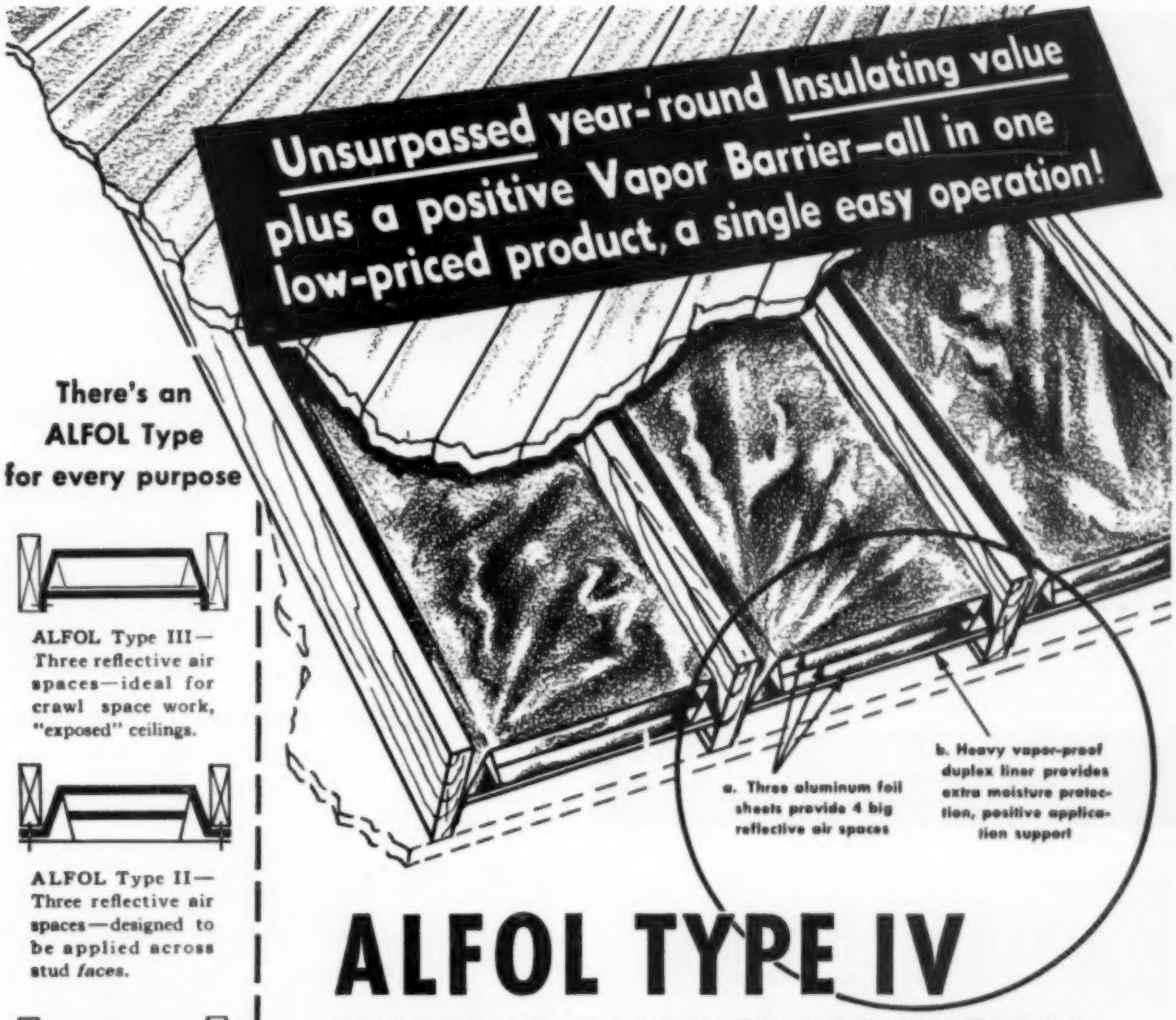
DOUBLE-HUNG CASEMENT PROJECTED AWNING

WINDOWS

Lower maintenance costs, no painting, easy operation, years of trouble-free service . . . these are a few of the benefits your clients get with "Quality-Approved" aluminum windows . . . windows that have been tested for quality, strength, construction and minimum air infiltration.

For detailed specifications and names of manufacturers, consult Sweet's 16a/ALU or write direct to

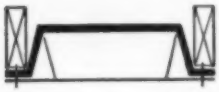
ALUMINUM WINDOW MANUFACTURERS ASSOCIATION
74 Trinity Place, New York 6, N.Y.


Unsurpassed year-'round Insulating value
plus a positive Vapor Barrier—all in one
low-priced product, a single easy operation!
a. Three aluminum foil sheets provide 4 big reflective air spaces
b. Heavy vapor-proof duplex liner provides extra moisture protection, positive application support

There's an ALFOL Type for every purpose

ALFOL Type III—Three reflective air spaces—ideal for crawl space work, "exposed" ceilings.

ALFOL Type II—Three reflective air spaces—designed to be applied across stud *faces*.



ALFOL Type I—Two reflective air spaces—Low cost efficiency, ideal for mild climate use.

ALFOL Type IA—Two reflective air spaces—specially designed for masonry construction.

ALFOL TYPE IV

BUILDING BLANKET INSULATION

Here's top insulation value in America's cleanest, most compact "package"—ALFOL Type IV! Design is simple: 3 aluminum foil sheets automatically expanding to create 4 reflective air spaces. Yet as applied above, for example, the year-round value of Type IV surpasses that of full-thick bulk insulation! (Basis: ASHVE calculations.)

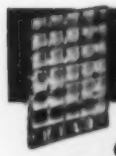
Its base foil layer is backed with heavy duplex. Vapor-proof, this backing is an exclusive ALFOL "plus." It enhances the already-great vapor-resistance of the foil . . . and gives the extra support that makes ALFOL sag-proof, rip-resisting.

Application is rapid, positive, fool-proof . . . because the aluminum foil sheets space themselves automatically. And ALFOL usually costs less to buy, less to apply. More good reasons why more and more architects are using the entire ALFOL line to "pin-point" their insulation specifications.

Write for free literature, complete details
—Address letterhead to our Dept. PA-3

ALFOL
BUILDING BLANKET INSULATION
"FIRST IN REFLECTIVE INSULATION"

REFLECTAL CORPORATION
A Subsidiary of Borg-Warner
310 S. MICHIGAN AVE. CHICAGO 4, ILL.



for distinctive beauty in modern design

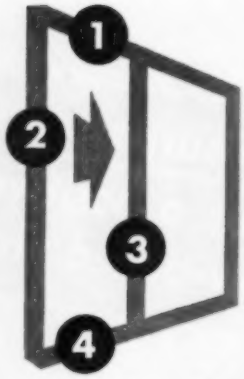
Magnalite obscuring-diffusing glass

manufactured by the Mississippi Glass Co.

As shown here in one of the nationally known *Howard Johnson Restaurants*, Magnalite Glass ideally lends itself to partitioning or screening. It gives privacy with maximum transmission of light; it is strong, durable, easy to work with . . . and it is easy to clean and *keep* clean.

Available in type "A" (cylindrical type lenses approximately ½" O.C.) type "B" and "B" wired (approximately ¼" O.C.). Send for Brochure M-1954 describing Magnalite and showing many different applications. Samples on request. *Magnalite is sold by leading glass dealers everywhere.*

J. Merrill Richards
25 Huntington Ave., Boston 16, Mass. *Magnalite*



EXCLUSIVE NEW WEATHERSTRIPPING

for ARCADIA SLIDING DOORS

Greater protection than ever! New, improved weatherstripping, developed by Arcadia engineers, gives year-round comfort with steel-framed sliding glass doors. Write today for details of Arcadia weatherstripping for all four sides of doors.

arcadia metal products
324 North Second Avenue
Arcadia, California

National Member of PRODUCERS' COUNCIL, INC.

LITESITE!

A REFRESHING GREEN
CHALKBOARD

3 Highest Quality Chalkboards: Hyloplate Litesite, Sterling Litesite, Hyloprest Litesite

BETTER FOR SIGHT!

BETTER FOR WRITING!

BETTER FOR ERASING!

Send for "Architects Quick Reference Guide to Chalkboard Selection."

Sold by Authorized Franchised Dealers

WEBER COSTELLO COMPANY
Chicago Heights, Illinois

Fine flooring for every installation

MOULTILE

MOULTILE asphalt tile. Reinforced with plastic.

MOULFLEX vinyl plastic tile. In low cost standard gauge.

JUBILEE asphalt tile. Striking dots of color styling.

PARQUETRY asphalt tile. The rich effect of wood block at low cost.

Write for details
Dept. 9-7

Moultile FLOORING SINCE 1929

Moultile Inc.
Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.

R20

modern heating at its best

Modine
convector
radiation

SUPERB styling . . . superb performance. You get both when you specify Modine convector radiation. These beautifully designed convectors have met every test for uniform, healthful heating . . . for long-life, economical service. There is no finer convector built.

Ask the Modine representative listed in your classified phone book for all the facts. Or write for Bulletin SA-54, Modine Mfg. Co., 1572 DeKoven Ave., Racine, Wis.

Mitchell FOLD-O-LEG tables

UNEQUALED in APPEARANCE DURABILITY STRENGTH

USED IN CHURCHES, SCHOOLS, HOTELS, INSTITUTIONS, CLUBS, LODGES AND INDUSTRIAL PLANTS

Convert any room into a Banquet or Group Activity Room... Set up or clear in minutes

QUICKLY FOLD or UNFOLD for Changing Room Uses

TOPS OF MASONITE PRESDWOOD, FIR & BIRCH PLYWOOD, LINOLEUM, RESILYTE PLASTICS

TUBULAR STEEL LEGS

MAXIMUM SEATING

MINIMUM STORAGE

EASY TO SET UP

Send for folder with complete specifications.

MITCHELL MANUFACTURING COMPANY
2740 S. 34TH STREET • MILWAUKEE 46, WIS.

THE STRONGEST, HANDIEST FOLDING TABLE MADE!

NOW...

AN INSPIRING IDEA BOOK WITH A FRESH NEW APPROACH

ARCHITECTURAL DETAILING

By CALEB HORNBOSTEL, *Architect and Teacher* and ELMER A. BENNETT *Of* PROGRESSIVE ARCHITECTURE *Staff*

Introduction by RICHARD J. NEUTRA

THIS big new idea book explains how complicated design problems have been handled with results that are graceful, functionally admirable and, where necessary, economical. It is the very first published collection of Elmer Bennett's famous "Selected Details" . . . the most popular single feature in any architectural magazine, a favorite of **Progressive Architecture** readers for 15 years.

Striking full-page illustration plates with sharp, clear halftone photographs and Elmer Bennett's popular detail line drawings of sections, elevations and blow-ups show exactly how you may obtain scores of desirable modern effects in solving specific details of design. You get literally hundreds of sound, workable ideas for building types ranging from the small home to a municipal auditorium!

Organized for constant reference and use, the book is divided into two parts. Part One covers details inherent in particular building types . . . banks, schools, theaters, auditoriums, offices, laboratories, residences, etc. Part Two contains details inherent in all types of buildings . . . such as fireplaces, stairs, doors, windows, lighting and ventilation.

As an extra helpful feature, each chapter contains a unique supplementary index. For example, the chapter on windows refers you to every instance throughout the book where windows are discussed. There is also, of course, a complete index at the back of the book.

230 pages, profusely illustrated, $12.00

Mail FREE-Examination Coupon *TODAY!*

REINHOLD PUBLISHING CORPORATION, Dept. M-724
430 Park Avenue, New York 22, N. Y.

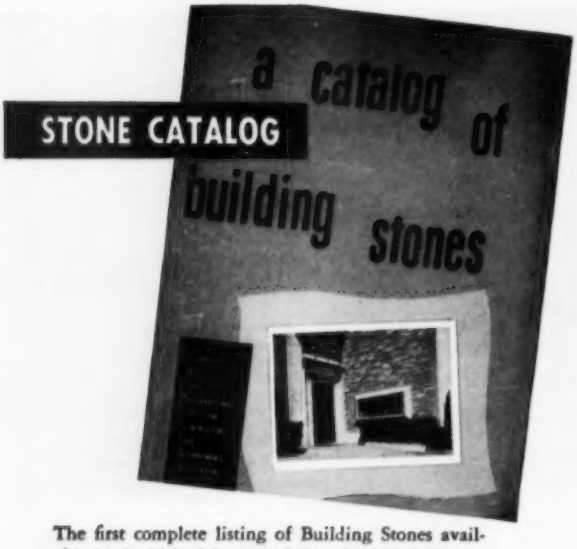
As soon as it comes from the binder, ship me ARCHITECTURAL DETAILING for 10 days' examination on approval. In 10 days I will remit $12 plus postage, or return book and owe nothing.

Name .....

Address .....

City .....Zone....State.....

☐ SAVE POSTAGE! Check here if you enclose $12; we pay postage. Same return and refund privilege.



The first complete listing of Building Stones available in the United States and Canada, with full color photographs of every type of stone, detailed descriptions, characteristics and sources. Published by THE STONE COUNCIL and offered to architects, contractors and builders at no cost. Write to

STONE COUNCIL
A DEPARTMENT OF THE INTERNATIONAL CUT STONE CONTRACTORS' AND QUARRYMEN'S ASSOCIATION
1700 Summer Street, Stamford, Conn.

BUY LIGHTING—*NOT FIXTURES*...

INVEST IN AMERICA'S FINEST FLUORESCENT LIGHTING

Write for catalog showing complete line of commercial and industrial units.

Smithcraft
LIGHTING DIVISION
CHELSEA 50, MASSACHUSETTS

New industrial floor for use over concrete
• Tough, durable hardwoods
• Extra thick (25/32 inch)
• Resists wear and abrasion
• Will not powder or dust
• Preserved for long-life
• Less wear and tear on power trucks
• Less damage to tools and parts
• Warmer and less fatiguing to workers
Write for folder and complete data
E. L. Bruce Co., Memphis 1, Tenn.
Bruce
BRUCE
DURA-WOOD BLOCK FLOORS

Simplify stair design with NATCO Stairtread Tile

Architects specify these rugged, fireproof stair treads because they are a complete structural unit designed for uniformity, long wear, low maintenance cost and speedy erection—in schools, churches, hospitals and other institutions.

Natco Clay Stairtread Tile is available in pleasing buff shades and is permanently slip-proof. What's more, these hard burned, dearied clay tile treads have high resistance to abrasive wear and greatly reduce stairway accident hazard.

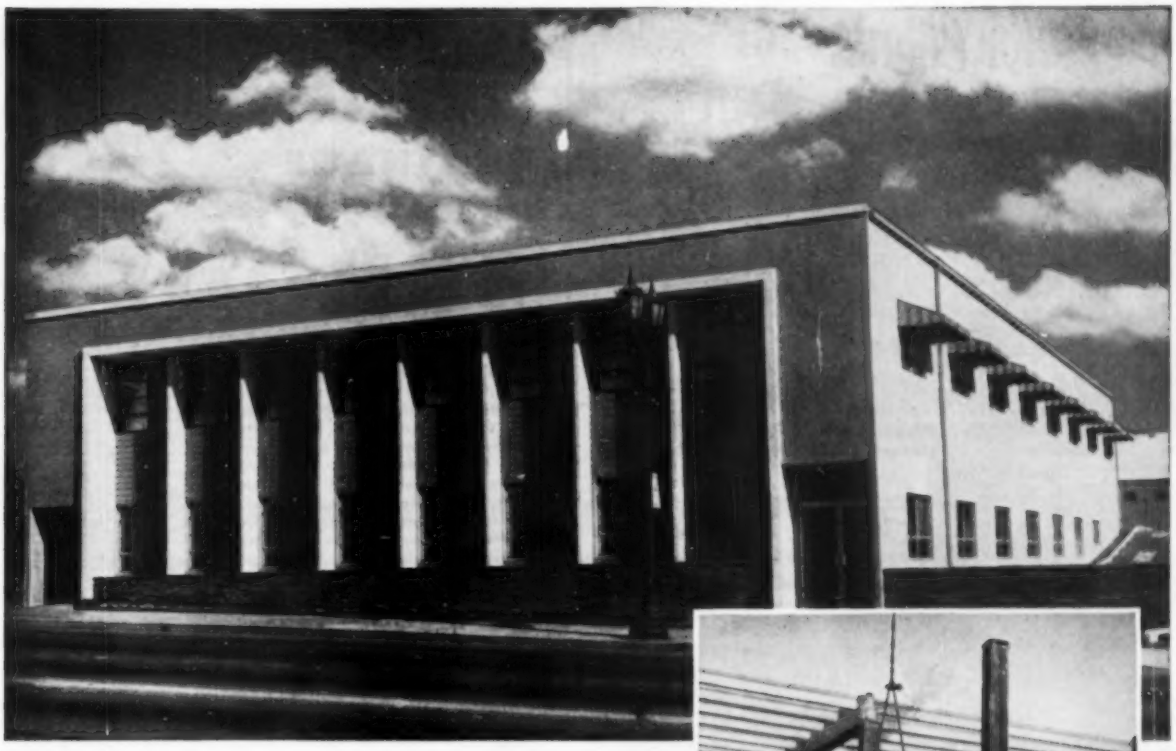
Painting is never necessary . . . occasional mopping down is all the maintenance that's ever required . . . even the strongest detergents can't harm these durable tile treads. No matter how heavy the school traffic, nor how many years of constant use . . . Natco Stairtread Tile resists cupping and absorption of dirt.

Use them in the buildings you design. Your job of stair designing will be greatly simplified. We'll send you more detailed information on request.

17 Strategically Located Clay Plants

NATCO CORPORATION

General Offices: 327 Fifth Avenue
Pittsburgh 22, Pa.



Build Type I Buildings at Moderate Cost with Precast Concrete Structural Units

Substantial reduction in construction costs of Type I buildings can be made by using a combination of concrete tilt-up walls and precast concrete structural members.

This fact was demonstrated in a 65 x 120 ft. two-story office building erected for the Mutual Credit Bureau of Los Angeles.

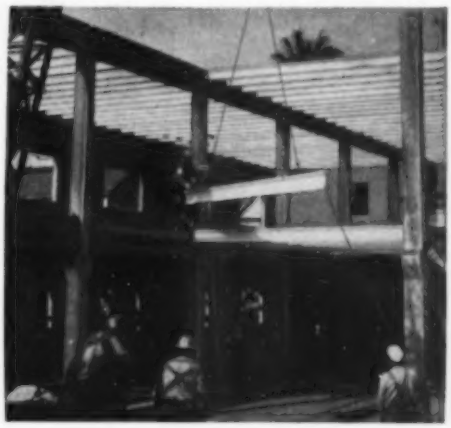
Four types of precast concrete units were used: (1) two-story-high interior columns, (2) girders to carry second floor and roof joists, (3) floor and roof joists, (4) exterior wall panels.

The total erection time for the precast units was only seven working days. The precast walls first were tilted into position and braced. Next the precast interior columns were set up and the girders hoisted into position. Then the precast concrete joists for the second floor and roof were placed. Finally, concrete for the second floor and roof was cast on metal forms.

Structures designed to utilize precast concrete units can be built fast and at moderate cost. Like all concrete structures they offer low maintenance cost, long life and ***low-annual-cost*** service. In addition, they can be designed for great resistance to such destructive forces as storms, quakes, decay, fire and blast.

For additional information write today for illustrated literature. It is free but distributed only in the United States and Canada.

Large photo, completed building. Above: Placing a roof girder. Below: Placing a precast floor joist. Alec Arany, engineer; John K. Minasian, consulting structural engineer; J. A. McNeil Company, Inc., contractor, all of Los Angeles.



PORTLAND CEMENT ASSOCIATION

Dept. 9-25, 33 West Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work

Best for Clients

PROVED RELIABLE, ECONOMICAL

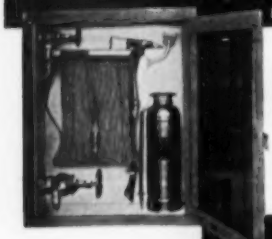
ALLENCO

INTERIOR

FIRE-PROTECTION EQUIPMENT

Complete Line — 480 Cabinets Alone

Modern, Most Widely Used



Easiest for you

AIA file 29e2—Sweet's Arch. File—
(see phone listing in principal cities)

SINCE 1887

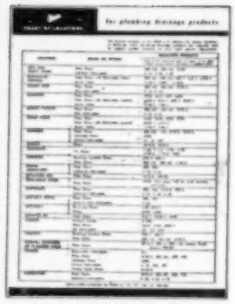
W. D. ALLEN

Manufacturing Co.

CHICAGO 6 • NEW YORK 7

how to select PLUMBING DRAINAGE PRODUCTS for SCHOOLS

One place where the architect planning a school can save time and money is in the plumbing drainage products. Selecting these products for a school can be difficult, time consuming and costly. The quick, easy way is to put this problem up to Josam, because Josam can supply every plumbing drainage product designed exactly for school needs, products tested and proved in thousands of school installations. Moreover, you get products that install easier, serve better and last longer at no more cost than for ordinary types. You'll find a check list of Josam products on the "Chart of Locations" in Josam Catalog "K". Write for a copy today if you don't have one.



Josam

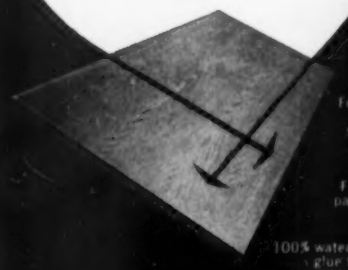
JOSAM MANUFACTURING COMPANY

DEPT. PA • MICHIGAN CITY, INDIANA

Design with DFPA Grade-Trademarked

FIR PLYWOOD

1 Does More Jobs—Better
2 Gives Two-Way Strength
3 Lower In-Place Cost
4 Appearance Value
5 Tested Quality



SPECIFY BY THESE DFPA GRADEMARKS

For roof, wall sheathing, sub-flooring — PLYSCORD

For built-ins, paneling, etc. — PLYPANEL

100% waterproof glue for all outside uses — EXT-DFPA

See Sweet's File, Architectural, or
Write Douglas Fir Plywood Assoc., Tacoma 2, Wn., for 1954 Catalog

ARCHITECTS...

Get this free booklet filled with ideas for MODERN WASHROOMS

This booklet contains color photographs of many actual American-Olean Tile installations that provide easy sanitation, low maintenance costs, and long life. In it you will find many useful ideas showing how tile can be used to advantage in washrooms and in other areas in industrial buildings. Write for your free copy today.

Please send my free copy of Booklet 300.

Name .....

Title .....

Address .....

City ..... Zone ..... State .....

American-Olean Tile Company

1029 Kenilworth Ave., Lansdale, Pennsylvania

Member, Tile Council of America

Summer Cooling...Winter Heating without bulky ductwork

The REMOTAIRE
by
AMERICAN-Standard

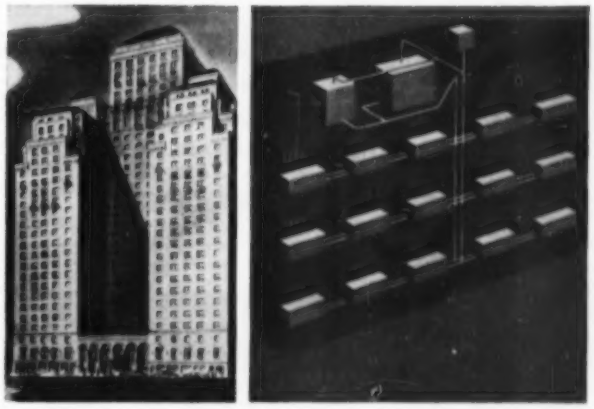
Individually-controlled unit filters and circulates air all year 'round in central plant, multi-room installations

■ The versatile Remotaire permits wide flexibility in architectural planning. No duct work is needed. The same simple piping circuit supplies chilled water for summer cooling and hot water for winter heating from a central plant. Each Remotaire unit has its own controls to permit individual room temperature adjustments.

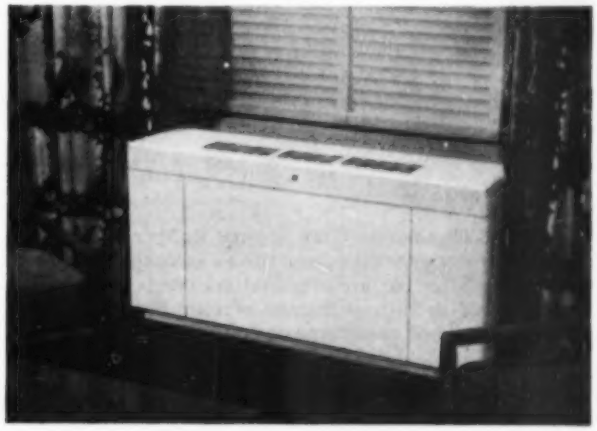
Available in a handsome semi-gloss Cooltan jacket, the units can be painted any desired color. And they can be installed recessed, partially recessed, or free standing to meet your design requirements. You can get a Remotaire unit to meet practically any load requirement—200, 400, 600 cfm. A four-row coil with horizontal flow gives greater cooling and heat capacity for each size. And since the reversible coil is designed for left or right hand connection, you have further latitude in planning.

The Remotaire is adaptable to the one system that's most efficient, most economical for the job—Wall Aperture System, Interior Ventilation System, Well Water System, Split-coil System, Motel System, Residential System, Modernization System.

For further information on the Remotaire see Sweet's Architectural File or contact your nearest American-Standard sales office for descriptive literature—Form 417.



THE REMOTAIRE IS VERSATILE. An example of a Modernization System is the Park Sheraton Hotel of New York. The above rendering shows how simple the Remotaire piping is. Picture below illustrates our attractive Remotaire unit in a Park Sheraton Hotel room.



AMERICAN-Standard
WATER HEATING-COOLING SYSTEMS

American Radiator & Standard Sanitary Corporation, Dept. PA-94, Pittsburgh 30, Pa.

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

GO PLACES with Weldon Roberts Erasers

(Photo Courtesy of Norwegian Information Service)

EVEN AT MIDNIGHT in NORWAY!

—the sun shines on the renowned quality, dependability and uniformity of Weldon Roberts Erasers. In the fascinating Land of The Midnight Sun and in lands the world-over, Weldon Roberts Erasers cleanly, superbly "Correct Mistakes In Any Language" and in practically every art medium. There are sizes, shapes and textures which exactly suit *your* erasing needs. Ask your dealer.

400 ARTEX

Soft, smooth, white rubber eraser for pencil work, drawing, drafting. Handy, bias-beveled shape. Sharp edges and ends for erasing fine line work; broad sides for cleaning

WELDON ROBERTS
RUBBER CO.
365 Sixth Ave.
Newark 7, N. J.
World's Foremost Eraser Specialists

Weldon Roberts Erasers
Correct Mistakes in Any Language

"Old Master" SKILL
IN MODERN PAINTING

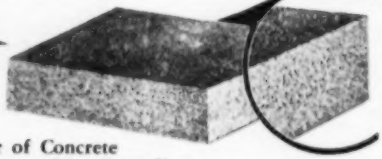
...with Bailey-Lewis-Williams' *guaranteed performance.* Respected throughout the South as experienced painting specialists to handle any size contract immediately and expertly. Estimates without obligation.

BAILEY-LEWIS-WILLIAMS
Painting Contractors
Miami, Florida — 7541 N.E. 3rd Place
Atlanta, Georgia — 1013 Boulder crest Dr., S.E.

GUARANTEED PERFORMANCE THROUGHOUT THE SOUTH

"GUNITE" ASSOCIATES, INC. Affiliate

Maximum Joint Filling with *Servicised* Cementone Sponge RUBBER JOINT FILLER



- Matches Color of Concrete
- Fully Resilient . . . Non Extruding
- Supplied in ¼", ½", ¾" and 1" thicknesses in lengths to 10 ft.

Servicised Cementone Gray Sponge Rubber Expansion Joint meets the need for an inconspicuous joint filler for architectural concrete. Can be supplied in various degrees of compressibility to meet your requirements.

Write for details and the complete Servicised Catalog today. There is no obligation. See SWEET'S Catalog.

SERVICISED PRODUCTS CORP.
6051 W. 65th St. • CHICAGO, ILL.

THE NEW **PARKER**
can help you produce complete and accurate site plans quickly, easily

SIMPLIFIED SITE ENGINEERING
FOR ARCHITECTS AND BUILDERS

By HARRY PARKER, Professor of Architectural Construction, and JOHN W. MacGUIRE, Ass't. Professor of Architectural Engineering, School of Fine Arts, Univ. of Pennsylvania

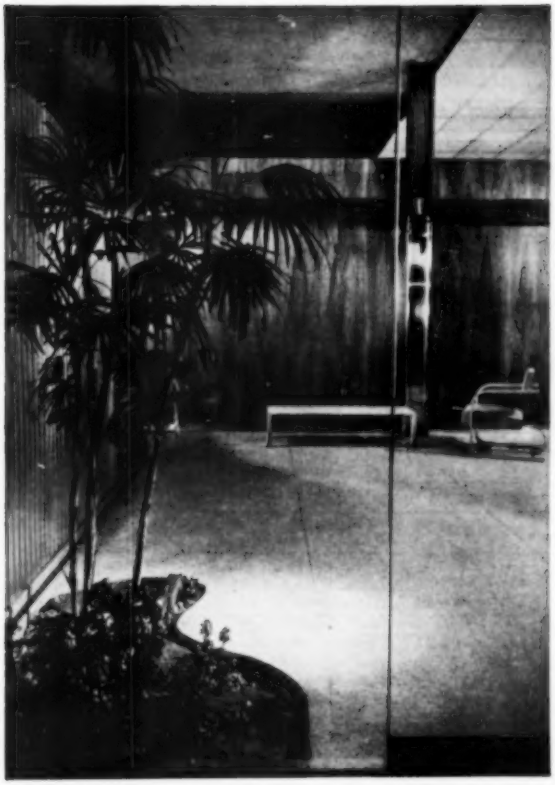
Pictures basic, recurrent problems in site engineering and shows you how to solve them

This is the only work which is entirely devoted to the solution of surveying and grading problems in site engineering. It reviews the trigonometry and logarithms used, and shows how these time-savers can help you plan a building site rapidly and accurately. All necessary tables (including 5-place log tables) are given, and typical logarithmic problems are worked out in detail. In addition, the authors put practical emphasis on the use of the simpler surveying instruments usually found in the architect's or builder's office.

1954 250 pages 5⅛" x 8" Flexible binding $5.00

Send for your ON APPROVAL copy NOW

JOHN WILEY & SONS, Inc.
440 Fourth Avenue — New York 16, N. Y.



ENTRANCE AND LOBBY of Northwestern Mutual Fire Association Building, Los Angeles • *Architect,* Richard Neutra; *General Contractor,* C. W. Driver, Inc.; *Terrazzo* by Venetian Terrazzo and Mosaic Co.; all of Los Angeles.

Wherever floors need beauty plus long life . . .

TERRAZZO

made with Atlas White Cement

Pictured on this page are four gleaming terrazzo floors. Every one of them is in a different type of building, yet in every case terrazzo is appropriate. Beauty and long life have been built in together.

Good-looking terrazzo offers the architect the utmost in design possibilities—not only for floors but for wainscoating and stairways, too. That's because the colors and tones that can be achieved with Atlas White Cement are almost unlimited. Atlas White means enduring good looks at low annual cost. Time-proof terrazzo's smooth surface won't give dirt a foothold – takes the threat out of heavy use.

SECURITY BANK BUILDING, Sioux City, Iowa • *Architect,* William Beuttler; *General Contractor,* H. S. Holtze Construction Co.; *Terrazzo Contractor,* Sioux City Mosaic Company, Inc.; all of Sioux City.

FLOORS OF SUPERMARKET, Food Fair Market, Philadelphia, Pennsylvania • *Architect,* Louis Kasoff; *Terrazzo Contractor,* United Marble Company; both of Philadelphia, Pennsylvania.

HALLWAY OF DEERPARK SCHOOL, Deerpark, Ohio • *Architects,* Gruckemeyer & Sullivan; *Contractor,* Frank Messer and Sons, Inc.; *Terrazzo,* Martina Bros. Co., all of Cincinnati, Ohio.

PA-VCT-81

FOR BEAUTY AND UTILITY

ATLAS WHITE CEMENT

FOR TERRAZZO, PAINT, SLABS, STUCCO

For further information, *see SWEET'S Catalog, Section 12g/Un and 3d/Un, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.*

UNITED STATES STEEL HOUR—Televised alternate weeks—See your newspaper for time and station.

pa DIRECTORY OF PRODUCT ADVERTISERS

Adam, Frank, Electric Co. 55
Aetna Steel Products Corp. 48
Air Devices, Inc. 168
Alan Wood Steel Co. 176
Allen, W. D., Mfg. Co. 236
Aluminum Window Mfrs. Assn. 230
American Abrasive Metals Co. 172
American Brass Co. ..... Back Cover
American-Olean Tile Co. 236
American Radiator & Standard Sanitary Corp. 237
Andersen Corp. 34, 35
Anemostat Corporation of America 3rd Cover
Arcadia Metal Products 232
Art Metal Co., The 18

Bailey-Lewis-Williams 238
Bakelite Co., Div. of Union Carbide & Carbon Corp. 203
Barber-Colman Co. 24, 215
Besser Mfg. Co. 223
Bogan, David, Co. 208
Bolta Products 148
Bradley Washfountain Co. 180
Brasco Mfg. Co. 40
Briggs Mfg. Co. 134
Bruce, E. L., Co. 234
Bull Dog Electric Products Co. 68
Butler, B. B., Mfg. Co., Inc. 228

Carrier Corporation 66, 67
Coco Steel Products Corp. 132
Celotex Corp. 52, 216
Chase Brass & Copper Co. 59
Clancy, J. R., Inc. 165
Clow, James B., & Sons 169
Combustioneer Div., The Steel Products Eng. Co. 230
Committee on Steel Pipe Research of the American Iron & Steel Institute 214
Concrete Reinforcing Steel Institute 45
Congoleum-Nairn, Inc. 51
Conner Engineering Corp. 77
Crawford Door Co. 13
Crucible Steel Co. of America 162
Curtis Companies Service Bureau 230

Douglas Fir Plywood Association 236
Dunham, C. A., Co. 38

Eastman Kodak Co. 229
Electro Dynamic Div. of Gen. Dynamics Corp. 167
Erie Enameling Co. 20

Facing Tile Institute 39
Federal Seaboard Terra Cotta Corp. 17
Fenestra Building Products ..217, 219, 221
Fitzgibbons Boiler Co., Inc. 207
Flour City Ornamental Iron Co. 25
Flynn, Michael, Mfg. Co. 47

General Woodcraft Co., Inc. 226
Goodrich, B. F., Flooring Div. 64
Gotham Lighting Corp. 228
Grinnell Co., Inc. 177
Gunite Associates, Inc. 238

Haertel, W. J., & Co. 159
Hardwood Products Corp. 198
Hauserman, E. F., Co. 1
Haws Drinking Faucet Co. 16
Hillyard Chemical Co. 227

Infra Insulation, Inc. 8
Inland Steel Products Co. ..... 2nd Cover
International Business Machines Corp. .. 218
International Cut Stone Contractors' & Quarrymen's Assn. 234
International Steel Co. 170

Johns-Manville Corp. 154
Josam Mfg. Co. 44, 236
Just Mfg. Co. 209

Kentile, Inc. 49
Kewanee-Ross Corp. 220
Keystone Steel & Wire Co. 80, 81
Kinnear Mfg. Co. 190

LCN Closers, Inc. 184, 185
Libbey-Owens-Ford Glass Co. 150, 182, 183
Lone Star Cement Corp. 82
Louisville Cement Co. 79
Ludman Corp. 191, 192, 193, 194

Macomber, Inc. 70
Mahon, R. C., Co. 5
Marble Institute of America, Inc. 228
Mastic Tile Corp. of America 46
Medusa Portland Cement Co. 156
Minneapolis-Honeywell Regulator Co. 178, 179
Mississippi Glass Co. 63
Mitchell Mfg. Co. 233
Modine Mfg. Co. 233
Moultile, Inc. 232

Natco Corp. 234
National Terrazzo & Mosaic Assn., Inc. .. 166
Nesbitt, John J., Inc. 14

Otis Elevator Co. 161
Overhead Door Corp. 152
Owens-Corning Fiberglas Corp. 58

Pittsburgh Corning Corp. 147
Pittsburgh Plate Glass Co. ..74, 75, 78, 225
Pittsburgh Reflector Co 22
Portland Cement Assn. 235
Powers Regulator Co. 56, 57
Pyle-National Co. 6

Reflectal Corp. 231
Reinhold Publishing Corp. 160, 212, 226, 233, 241
Revere Copper & Brass Inc. 222
Reynolds Metals Co. 32, 33
Richards, J. Merrill 232
Rilco Laminated Products, Inc. 213
Rixson, Oscar C., Co. 50
Robertson, H. H. Co. 188, 189
Roberts, Weldon, Rubber Co. 238
Roddis Plywood Corp. 71
Rotary Lift Co. 36, 37

Schacht Associates, Inc. 2
Schlage Lock Co. 65
Scott Paper Co 202
Seaporcel, Inc. 224
Sedgwick Machine Works, Inc. 208
Servicised Products Corp. 238
Simpson Logging Co. 196, 197
Smithcraft Lighting Div. 234
Spencer Div., Avco. Mfg. Corp 76
Soss Mfg. Co. 153
Southern Sash Sales & Supply Co. 171
Sparta Ceramic Co. 205
Staedtler, J. S., Inc. 205
Stark Ceramics, Inc. 173
Steelbilt, Inc. 11
Sterling Hardware Mfg. Co. 165
Stran-Steel Div., Great Lakes Steel Corp. 53
Structural Clay Products Institute 61
Superior Electric Co. 73
Surface Coatings, Inc. 69
Swivelier Co., Inc. 21
Sylvania Electric Products, Inc. 195

Tectum Corp. 41
Tile Council of America 138
Truscon Steel Div. 206
Tuttle & Bailey, Inc. 42, 43

Ualco Aluminum Windows 171
Union Carbide & Carbon Corp., Bakelite Co. 203
Unistrut Products Co. 199
United States Gypsum Co. 200, 201
United States Plywood Corp. 186, 187
United States Quarry Tile Co. 164
United States Rubber Co. 19, 210
Universal Atlas Cement Co. 239
Universal Corp. 23

Wakefield, F. W., Brass Co., The 60
Wasco Flashing Co. 72
Washington Steel Corp. 204
Weber Costello Co. 232
West Coast Lumbermen's Assn. 62
Westinghouse Electric Corp. 26, 27, 28, 29, 30, 31
Wheeling Corrugating Co. 174, 175
Wiley, John, & Sons, Inc. 238
Wilson Engineering Corp. 212
Woodco Corp. 226

Youngstown Sheet & Tube Co. 54

Zonolite Co. 211
Zurn, J. A., Mfg. Co. 181

430 Park Avenue, New York 22, N. Y. MUrray Hill 8-8600

BRAD WILKIN, *Publisher*

NEW YORK OFFICE:
EDWARD D. BOYER, *Eastern Sales Mgr.*
HAROLD D. MACK, JR., *New England District Mgr.*
WM. B. REMINGTON, *N. Y.-N. J. District Mgr.*

FRANK J. ARMEIT, *Production Manager*

CLEVELAND OFFICE:
815 Superior Ave., N.E., Cleveland 14. Prospect 1-5583
JOHN W. BATTLES, *Central Sales Mgr.*
JOHN F. KELLY, *District Mgr.*

H. I. SIROTA, *Promotion Manager*

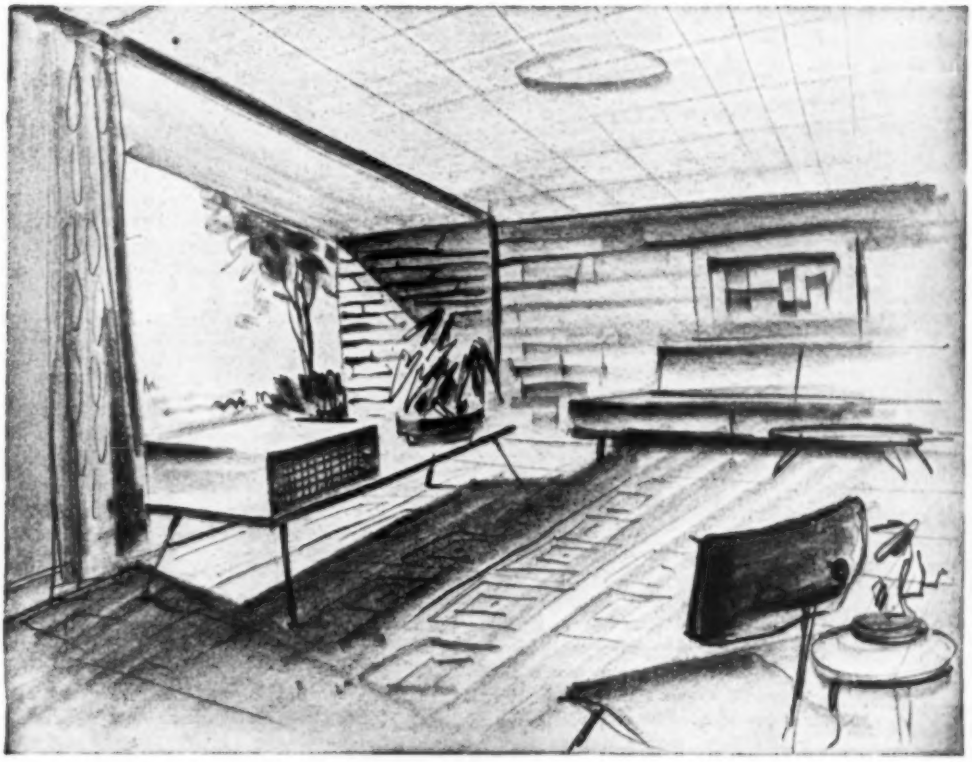
CHICAGO OFFICE:
111 W. Washington St., Chicago 2. RAndolph 6-8497
DAVID B. HAGENBUCH, *Western Sales Mgr.*
R. J. CLAUSSEN, *District Mgr.*
WILLIAM B. EVANS, JR., *District Mgr.*

WEST COAST ADVERTISING REPRESENTATIVES
San Francisco, Calif.—Duncan Scott & Co., Mills Building. Garfield 1-7950
Los Angeles, Calif.—Duncan Scott & Co., 2978 Wilshire Blvd., Dunkirk 8-4151

the FIRST book on pencil rendering devoted exclusively to modern architecture!

by W. W. ATKIN, Architectural Editor, Reinhold Book Division, RANIERO CORBELLETTI, Teacher of Rendering at Pratt Institute, and VINCENT R. FIORE, Free-lance Renderer.

PENCIL TECHNIQUES IN MODERN DESIGN



128 pages, 8¾" x 11¼" profusely illustrated, $8.25

For all architects, renderers, draftsmen . . . here's the most beautifully compiled, beautifully illustrated book ever published on modern methods of pencil presentation!

Designed both as a text and as a working companion for the practicing architectural renderer, the book offers an amazingly complete study of the various approaches to rendering. The first part, entitled Rendering Techniques, lists and explains the methods of pencil design—scrumbling, value rendering, side stroke, fine line, line and tone, broad line, pencil painting, combined techniques and character rendering. Each of these techniques is accompanied by numerous sketches which show, together with the text, the advantages and disadvantages of the technique, pencils and paper used, how to represent construction materials, entourage, and other special hints. Also included in this first part is a unique section on Rendering for Printing Processes. Here, each technique is classified according to its reproducibility by both letterpress and offset printing.

The second part of the book, entitled How to Render in Pencil, is especially designed for the beginning student of rendering. Here, fully described and illustrated, are materials and equipment, fundamental strokes and exercises, composition, perspective, shades and shadows, and the thumbnail sketch.

Throughout the book, drawings by well-known architects and renderers are used as examples of various techniques. Each is reproduced as large as possible so that all details may be studied clearly.

With its unusual wealth of illustration and easy-to-understand text material, this book will prove invaluable not only to teachers and students of rendering, but to all architects, artists, decorators, draftsmen — to *any* design professional who creates or uses pencil renderings.

Use this coupon for free examination

REINHOLD BOOK DIVISION
Dept. M-717, 430 Park Avenue, New York 22, N. Y.

Please send me a copy of PENCIL TECHNIQUES IN MODERN DESIGN by Atkin, Corbelletti and Fiore @ $8.25.

☐ Remittance enclosed.
☐ Send on free 10-day examination.

NAME .....
(Please print)

ADDRESS .....

CITY .....ZONE.....STATE.....

NOTE: You save postage and delivery charges by sending payment with order. Same return privilege guaranteed. Include 3% sales tax on N.Y.C. orders.

P.S.

John Hollister is an architect practicing in a medium-sized town in the Midwest. Actually, his name isn't John Hollister, and I have purposely mislocated the community he serves. None the less, I know John very well, and I have watched his growth as an architect with great interest. He might be considered an "average" architect, and if you want to know more about him statistically I recommend that you read *The Architect at Mid-Century*, Part I of the final report of the Burdell Commission which the AIA set up four years ago (recently published by Reinhold). There you will discover his income, the number of people in his office, and his educational background. What I want to describe here, however, is John Hollister's part in what the book covers—in general terms, on one brief page—as "New Horizons in Professional Competence."

After graduating from architectural school, John spent a number of years working in offices in New York, Chicago, and San Francisco. He had a good reputation as a thoughtful, careful draftsman and detailer. In his last position as an employe he was called "designer."

Then one day John began to think of the area where he had been born and raised, where he had a strong suspicion that there was room for an active practice. A trip home tipped the scale in that direction, after a talk with an elderly architect in his home state—though not in his home town. He found that he could make a partnership arrangement, financially within his means, potentially profitable (as he estimated it) with "new blood" added to an office already well entrenched politically and socially in the community. After a mite more hesitation, John decided to take the summer off to prepare for the next State registration examination and begin the new association in the fall.

From this point on, for some years, a restraining and a dampening influence began to affect John's attitude toward architecture. He had never been a "radical" in any sense, and neither in school nor in his office work had he shown unusual imagination; yet he had been firmly convinced that "new horizons" in architecture stretched ahead of the profession in his generation's time, and that routine, eclectic work was neither personally gratifying nor a good insurance of future income. Beginning with his registration examination, however, John began to justify to himself a much more conservative course of action than he had planned. In his State, the Board of Examiners was composed of men who felt maybe there was something in this modern architecture for some parts of the country—California, for instance—but not for their own area. Not that they would turn down a "contemporary" design, if it wasn't too extreme, but. . . . So John, wanting to make sure that he could begin the new partnership as soon as possible, took no chances on the Design and Composition tests of his examination. He passed, was duly registered, and became a partner in the firm of Bannerman & Hollister.

The first new job in the office, after he entered the firm, was a school (Bannerman had most of the school work in the State sewed up) and John at first had thoughts of trying out an idea on classroom arrangement that had been discussed, but not used in his "designer" days in San Francisco. He didn't want to move too fast, however, in changing the accepted standards of the office, and this seemed an unusually conservative school board. The next job was won after tough competition from another local firm, and any outlandish suggestions would have been dangerous. And so on. . . .

Thus, for reasons that John told himself were beyond his control, the work of the firm had changed very little at the time when Bannerman suddenly became seriously ill and then, within a few months, was listed in the Necrology column of the AIA Journal. That was a period when John had to hold his small organization together, keep work flowing in despite the old man's death, and cement to himself the friendships, business and social contacts, and political affiliations that had been the mainstay of the office. Certainly no time for experimentation and new approaches.

As a matter of fact, the only changes that were made in those first years of John's solo practice consisted of the addition of several younger men—recent graduates—to the staff.

•

This was the situation when I visited John's town as a member of a Jury for a local AIA Honor Awards judgment. It was a Jury that quickly agreed that there were few outstandingly good buildings, but a number that we decided showed "promise"—tastefully designed, leaving one with a feeling that if either client or architect had tried a little harder, something really noteworthy could have resulted. One of these was a *Church: John Hollister, Architect.*

I agreed to write the Jury report, from notes I had taken of comments by my colleagues, and I stayed in town a few days, for second looks. The other Jury members—distinguished and busy architects—flew back immediately to New York and Detroit. That evening, I had dinner with John. He began to make excuses for himself and his work. "You know, this is the most conservative part of the country," he told me. "I guess the work you saw and judged today looked pretty grim to you."

"On the contrary," I told him, "there were some pleasant surprises." And, although the results were not to be announced for several weeks, I confided in him that his own St. Mary's church had received a Citation. "It's a nice little job," I said. "Nothing to be ashamed of."

"For heaven's sake!" he responded with genuine astonishment. "I didn't even know the boys were entering it." He thought a minute. "You know, that was Jimmy Miller's job almost entirely—one of the new youngsters in the office. To be frank, I scarcely had time to look at it from beginning to end." He pondered again, and added, "It *is* a nice job, isn't it?"

Conversation perked up, and I made a date to stop at John's office the next day.

•

The office call was good fun. John, although I had asked him not to, had spread the word of the Citation. The staff was jubilant and John himself had new excitement in his eyes. As we went around the drafting room, and as we sat in his own office, he would ask one of the staff: "Jim, dig out those sketches we made for the Elmwood School—the ones we discarded. I'd like Tom to see that scheme. We may be able to use it on the High Street job." Or, perhaps, "Harry, didn't you have an idea for exposed bents for that County Fair job? Sketch it out for Mr. Creighton, will you? I think he'd be interested."

I don't mean to imply that things changed overnight in the office of John Hollister, Architect. But I began getting notes from him from time to time, "We're working on a little shopping center project that I think will be quite nice. I want to send some drawings along to you in a little while." That sort of renewed confidence and increased interest in the product of the firm. Jimmy Miller was made an Associate. And I was very happy to see, running over the National Honor Awards given at the last AIA Convention, that a school job of theirs got a well-deserved Award.

I guess this is what is meant on page 407 of *The Architect at Mid-Century* where it says, "The improvement of competence has been a recurring theme among architects."

Thomas H. Creighton

Anemostat high velocity units

HAVE DESIGNS ON SPACE

Floor to floor height can be kept to a *minimum* and usable floor space to a *maximum* with Anemostat High Velocity Air Conditioning. • HV units, used with smaller than conventional ducts, save space, and money too. They substantially reduce pounds of sheet metal required, can be installed faster, with less labor. • HV Manual 48 contains specification data on 7 types of Anemostat High Velocity units, for all engineering and architectural requirements. Write for free copy.

ANEMOSTAT®

DRAFTLESS *Aspirating* AIR DIFFUSERS

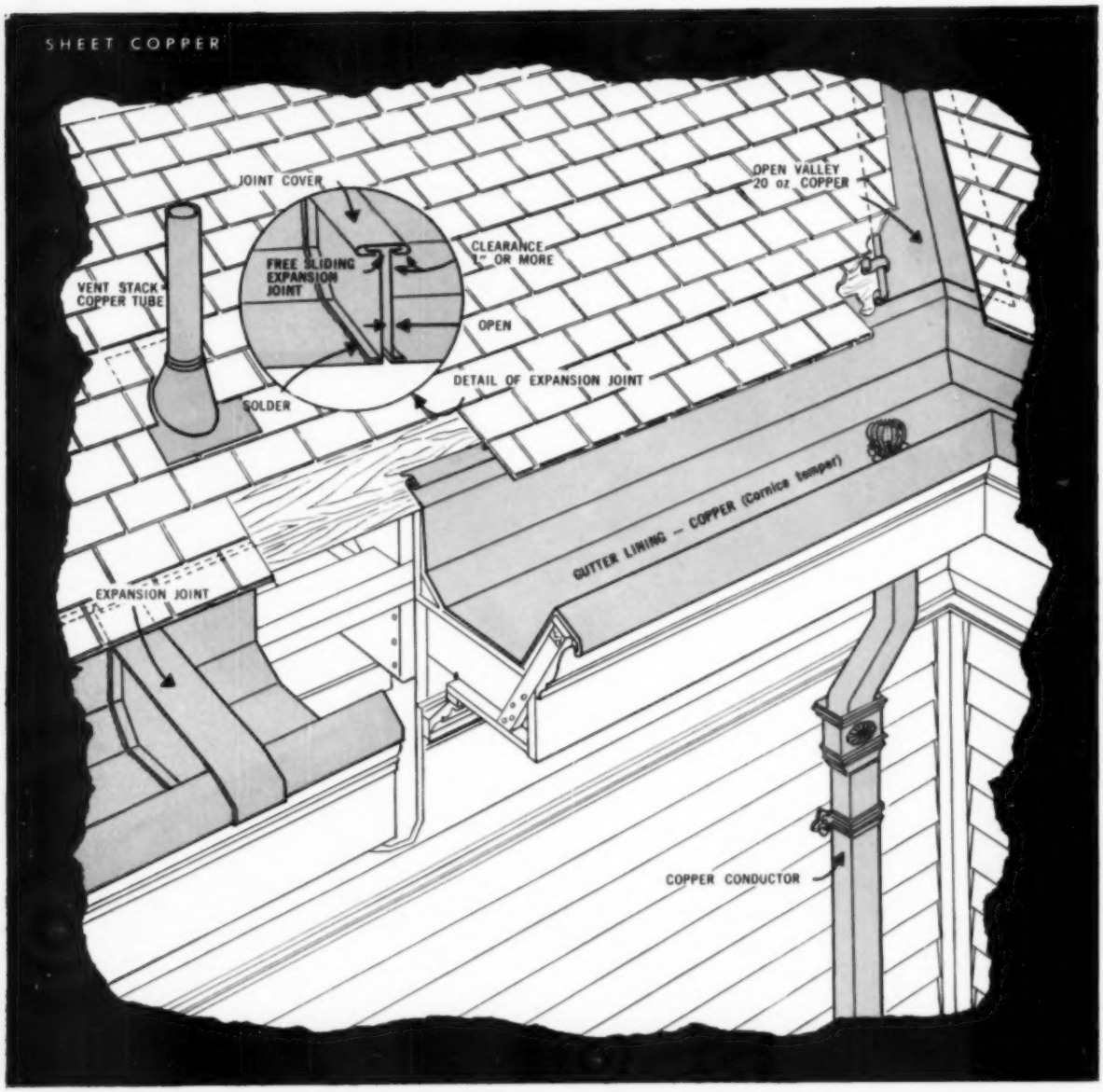
ANEMOSTAT CORPORATION OF AMERICA

10 EAST 39th STREET, NEW YORK 16, N. Y.

REPRESENTATIVES IN PRINCIPAL CITIES

"No Air Conditioning System Is Better Than Its Air Distribution"

AC1024



Built-in copper gutters: how to design and install them

Architects frequently prefer a gutter of built-in design so that the attractive architectural eave line of the house will not be hidden. Furthermore, a built-in gutter will handle more water and is not so easily damaged by sliding snow, ladders, etc.

A copper gutter of this type presents no problem to the experienced sheet metal craftsman when accepted standards of design and installation methods are followed. *Copper should be of a gage corresponding to the scale of the work.* Examples: a gutter like that shown on the drawing with a bottom 8" wide —a size common on houses—may be of 16 oz. copper. A bottom 12" wide calls for 20 oz. copper . . . 18", 24 oz. copper . . . and anything above, 32 oz. *Copper should be cornice temper. Gutters must have free sliding edges and expansion joints midway between the downspouts.*

If these points are kept in mind when you design or install this type of copper gutter you will be assured of a long-lasting, trouble-free installation. SMM

Do you have the FREE Anaconda file of drawings? Each drawing shows a new or improved way to apply sheet copper. Each is printed on a separate 8½ x 11 page, handy for quick reference filing. This series may be obtained absolutely FREE by writing for Portfolio S to **The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.**

For sheet and roll copper an

ANACONDA®

Distributor will serve you best